

THE NOR-WEST FARMER.

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WINNIPEG, MANITOBA, FEBRUARY 20, 1899.

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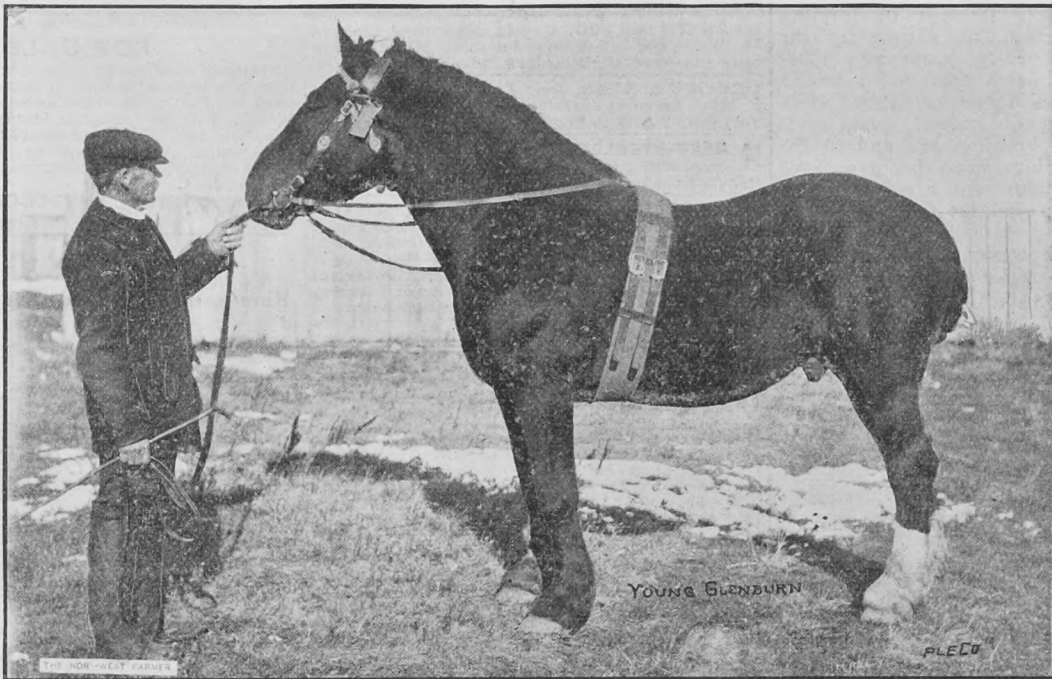
THE ANNUAL CONVENTIONS THE BEST MEETINGS EVER HELD

The annual meetings of the Pure Bred Cattle Breeders', Sheep and Swine Breeders', Dairy and Horticultural Associations were a series of excellent meetings of which these associations can justly feel proud. The attendance of well-informed breeders, dairymen and horticulturists from all parts of the Province was larger than ever before, showing a growing interest in these lines of farm work. The papers and addresses were practical rather than speculative and better than at any previous meeting, while the discussions, as is nearly always the case, were upon practical lines and brought out many

was responded to by J. G. Rutherford, M.P., in suitable language. He called attention to the fact that Winnipeg, more than any other city in the Dominion, is dependent upon the farming community for her prosperity. The other Provinces have many industries, but we are situated on the edge of the great plain. We have no lumber, as yet no mines, and our fisheries are not large, so that up to the present time our industry is farming. When he spoke here some two years ago he said he did not look upon those gathered here as mere farmers. He pointed out that the men who gathered at these

three divisions of sheep—1. The lowland breeds, pasturing to a height of about 800 feet above the sea, and characterized by large size, heavy wool and choice mutton; 2. The upland breeds, pasturing at a height of 1000 to 2000 feet, and characterized by more action and less wool and mutton than the lowland breeds; 3. The mountain breeds, pasturing as high as 10,000 feet, as some breeds do in the Andes, and characterized by strength of limb and ability to look after themselves.

By continuous breeding under these conditions man has permanently fixed the peculiarities of each breed so that they are transmitted from parent to offspring with unfailing regularity. As an example of the effect of environment developing certain qualities and then of these being transmitted by heredity, he instanced the difference between the Jersey and



Young Glenburn, 405, bred and owned by A. Struthers, Elkhorn, Man.

Young Glenburn, foaled in June, 1892, is a beautiful bay, 17 hands high. His sire is Glenburn, 5811, imp., a Scottish prize-winner and of the best of breeding. Young Glenburn's dam is Fanny of Marshall, 162, by Emperor III, imp. He has proved a successful sire as evidenced by his heavy seasons and the number of young stock that have found their way into the prize ring. He has been a first prize winner at local shows until this year he came into competition with his stable mate, Charming Charlie.

most valuable points, which would have been of interest to every one could they have been present.

We cannot give our readers all the good things that were said during the week—we wish we could—but we have endeavoured to get as many of them as possible. The following report takes up the meetings in the order in which they occurred.

JOINT MEETING, TUESDAY EVENING.

At the opening meeting Jas. Riddell, M.P.P., Rosebank, was appointed chairman, and in a neat speech extended a cordial welcome to all. He then called on Ald. Mathers, who extended a glad welcome to the members of the associations in behalf of Mayor Andrews. This

meetings were the cream of the farming community, and he would say it again, and also say that we cannot dwell too much on the importance of the work that is done by these associations.

SELECTION IN STOCK BREEDING.

Was the subject of a practical talk by J. A. Craig, Professor of Animal Husbandry at the Iowa Agricultural College. He pointed out that nature by selection had made a million species and that as many more had died, while man in the last 200 years had developed about 100 breeds of live stock that were recognized as being of very superior merit. Of these there were 15 breeds of cattle, 20 of horse, 50 of sheep, and 15 of hogs. These different breeds were caused by differences in climate, soil and market demands. The one point of altitude alone made

the Ayrshire. The Jersey was brought up on small farms, where most of her feed was brought to her, selected and bred for butter until the habit of giving rich milk was fixed in her nature. The Ayrshire, on the other hand, was brought up on rough pasture and was developed as a cheese cow.

The two factors that have been most instrumental in producing all our breeds and with which breeders of to-day have to work, are variation and heredity, guided by man's selection. Some have said that breeding was a continuous creation of new varieties and it might well be looked upon as that, because in 20 generations an animal has nearly one million ancestors, whose blood has been united in him. This tendency to variation has been overridden to a large extent by heredity, the law which has given us our fixity of

type. He gave numerous instances of the working of this law in breeding and pointed out that function was one of the traits of an animal that was transmitted by heredity. As an instance of transmitted function, he spoke of a herd of milking Shorthorns established by Secretary Wilson and bred now for some five or six generations. The cows of this herd were giving over 300 lbs of butter in a year and raising a calf that would make the best of animals for beefing purposes. He gave an instance from his own work at Wisconsin, showing that the sire as well as the female had the power of transmitting functional qualities. By using a highly bred butter bull upon a number of cows in the herd and carefully developing the heifer calves, he found that the heifers gave 22 lbs. of butter a year more than their dams. He gave another instance from his work with sheep. They wanted to get ewes that would drop lambs for the early markets. As most of our breeds of sheep do not breed early enough for this, he crossed Shropshire grades with a Dorset ram. The Dorset ewes will take the ram at any season. The result was that the first cross gave this peculiarity in a marked degree in the progeny and were more marked still in the next generation. Breeders should not forget the influence for good or bad of a sire.

Habits and the influence of training are also transmitted, as shown by the trotting horse. Fifty years ago there were very few horses that could trot a mile in 2.30, now there are about 1000. The transmission of trained qualities is also seen in the hunting dog and in the collie. These habits have become fixed in the animal's nature and are transmitted along with other qualities from parent to progeny.

There seems, however, to be a limit to the use we can make of heredity. He stated that from the wild pigeon no less than 300 different varieties have been developed. Fancy breeders took a notion to develop short beaks and got them so short that the young pigeon could not break the egg shell. The transmission of disease also brought a limit in certain directions. He did not think colts were born with curbs, spavins, etc., but the tendency to develop them was transmitted and under favorable circumstances these troubles soon developed. It was the same with tuberculosis, hence there is a limit to which we can use heredity.

But back of heredity, back of selection, and transmission of desirable qualities comes the man himself—the personal equation. It has been said that 50 men could be found suitable to be prime minister of England to one that could make a success of stock breeding. Professor Craig said that not one man in 10,000 would make a successful breeder, i.e., attain such success as had been won by men like Cruickshanks.

C. C. Macdonald asked Professor Craig for his definition of a general purpose cow.

Profesor Craig said that there was at present a great deal of controversy about the general purpose or dual purpose cow. He defined her as a cow that would give about 300 lbs. of butter in a year and drop a calf that when a little over two years old would make a 1500 lb. beef steer. He did not think it possible to get an animal that would combine the highest milking qualities and at the same time drop calves that would possess the highest beefing qualities. He did think, however, that there was a happy medium, animals which would give good profits from the cow as a milker and from the calf as a beef steer.

FEEDING THE COW.

This was the subject of a very practical talk by S. A. Bedford, of the Brandon Experimental Farm. He based his re-

BREEDERS' DIRECTORY

CARDS under this head inserted at the rate of **\$1.50** per line per year. No card accepted under two lines, nor for less than six months.

WALTER LYNCH, Breeder of Shorthorn Cattle. Post Office and Railway Station, Westbourne Manitoba. This herd has competed sixteen times in fifteen years with both imported and home bred cattle and has won fifteen 1st and one 2nd, herd prizes.—1536r

D. FRASER & SONS, Emerson, Man. Breeders and importers of Shorthorns, Shropshire and Southdown Sheep. Pedigree Poland China Pigs a specialty, from the best strains in the United States.

W. J. HELLIWELL, Oak Lake, breeder of Shorthorn Cattle, Shropshire Sheep, Barred Plymouth Rocks, Light Brahmas and Partridge Cochins. All kinds of above young stock for sale. Prices right.

R. L. LANG, Spruce Bank Farm, Oak Lake, Man., breeder and importer of Shorthorn Cattle, improved Berkshire Swine, White Wyandottes and White Leghorns. Young stock for sale. 2448

WM. MCBRIDE, importer and breeder of improved Chester White Pigs. Young stock for sale. Pairs and trios furnished not akin. Address—Wm. McBride, Box 253, Portage la Prairie, Man.

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JAMES GLENNIE, Arden, Man. Importer and breeder of Holstein-Friesian Cattle. Bull Calves of the famous Teake strain for sale. Write for prices. Box 95.

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JICKLING & SONS, Dew Drop Ranch, Carman, Man. Breeders of Oxford Down Sheep, improved Yorkshire Pigs & B. Leghorn Poultry. Stock for sale.

R. REED-BYERLEY, Cook's Creek, Man., breeder and importer of Clydesdales. Headed by Gem Prince, sired by Cedric. Correspondence solicited.

THOS. SPEERS, Oak Lake, breeder and importer of Shorthorn Cattle & Berkshire Pigs. Old and young stock for sale, either sex, for show or breeding. 2446

HENRY LAYCOCK, Rosebank, Man., breeder of Shorthorn Cattle and P. China Swine. Young stock of both classes for sale. Prices satisfactory.

W. F. PIEPER, Morden, Man. Pedigrees, Calling and Show Cards in pen work. Everything in the line of engraving. Send stamp for samples.

W. C. EDWARDS & CO., North Nation Mills, P.Q. Importers and Breeders of Ayrshire Cattle Shropshire Sheep and Berkshire Pigs. 1642r

JOHN TURNER, "Bonny Brae Farm," breeder of Polled Angus Cattle. Young stock of both sexes for sale. Address, John Turner, Carroll, Man.

A. & J. MORRISON, Carman, Man. Breeders and importers of Shorthorns and Berkshires. I have a fine lot of young and old Swine for sale

J. VAN VEEN, breeder of Galloway and Hereford Cattle and Shropshire Sheep, Lake View Ranch, File Hills, Fort Qu'Appelle, Assa. 1588

JAS. BRAY, Oak Grove Farm. Breeder of improved large Yorkshire Pigs. Young Pigs for sale. Address Jas. Bray, Longburn, Man. 1594r

R. M. WILSON, Marringhurst, Man., breeder of Shorthorns. Red Knight 2nd [15563], herd bull, and young bulls for sale.

W. C. EDWARDS & CO., Rockland, Ont., Importers and Breeders of Shorthorn Cattle, Shropshire Sheep and Berkshire Pigs. 1643r

JAS. ROBERTSON, Beaver Brand Farm, Glendale P.O., Man. Poland China Pigs for sale from imported stock. Prices right.

W. M. SMITH, Fairfield Plains, Ont. Ayrshires. Southdowns, P. Chinas, Duroc Jerseys, Poultry.

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GEO. ALLISON, Burnbank, Man., breeder of Shorthorns and Leicesters. Stock for sale. 2481

P. McDONALD, Virden, Man., breeder of Improved Berkshires. Aged boar cheap. Young stock.

STEEL BROS., Glenboro, Manitoba. Breeders of Ayrshire Cattle. Young Stock for sale. 1731r

MENZIES BROS., Shoal Lake, Man., breeders of Shorthorns, Oxford Downs and Berkshires.

H. R. TOLTON, Oak Lake, Man., breeder of Shorthorns. Prize-winning young Bull for sale.

JNO. S. GIBSON, Morden, Man. Shorthorns and Poland Chinas. Bull (22801) and Boars for sale.

W. E. BALDWIN, Manitou, Man. Tamworth and P. China Pigs. Young Tamworths for sale.

WELLINGTON HARDY, Pomeroy, Man. Ayrshires and large Yorkshires. Young Stock for sale.

THOS. H. WEBB, Clearwater, Man. Breeder of Berkshire Swine. Correspondence solicited.

WALTER JAMES, Rosser, Man. Breeder of choice Shorthorn Cattle and Berkshire Swine.

GEO. N. HARRIS, Lynden, Ont. Breeder of reg. Berkshire Pigs. Young stock for sale.

JOSEPH TAYLOR, Fairfax, Manitoba, breeder of Shorthorn Cattle. Young stock for sale.

ALEX. D. GAMLEY, importer and breeder of Leicester Sheep, Box 193, Brandon, Man.

T. JASPER, Bradwardine. Shorthorn Bulls, Berkshires and Oxford Downs for sale.

WM. HEDLEY, Oak River, Man., breeder of Leicester Sheep. Rams for sale. 2447

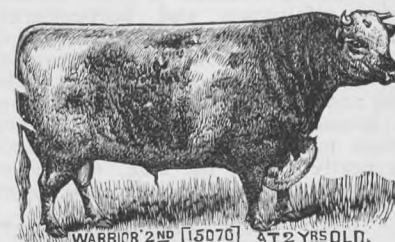
JAS. MURRAY, Breeder of Leicester Sheep. Young Rams for sale. Lyleton, Man. 1627r

GEO. RANKIN, Hamiota, breeder of Shorthorn Cattle. Stock always for sale. 2443

JAMES STRANG, Baldur, Man., has for sale two Pedigreed Shorthorn Bulls.

ALEX. WOOD, Souris, Man., Breeder of Oxford Down Sheep.

RESTRONGUET STOCK FARM



WARRIOR 2ND [15070] AT 2 YRS OLD.

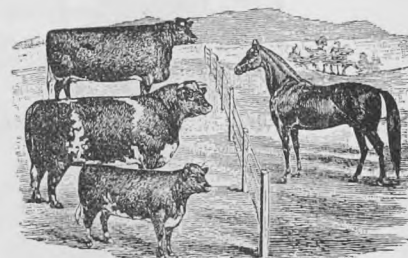
FOR SALE.

Thirty head of young pure bred Shorthorn Cattle from 8 to 18 months old—15 Bulls and 15 Heifers—sired by Indian Warrior, sweepstakes Bull at the World's Fair, and Sittytown Stamp, imported. We have the best lot of young things that we ever offered for sale. All stock sold will be delivered as far west as Calgary, about March 1st, at our risk and freight free.

JOS. LAWRENCE & SONS, Clearwater, Man.

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OFFERS FOR SALE

Ten Choice Shorthorn Bulls

From seven to twelve months,

Twenty-five Cows & Heifers

served by imported bull, Golden Fame, =26056=; also, a few cows with calves at foot. Farm six miles from Hamilton. Catalogue sent on application. Visitors met at G. T. R. or C. P. R. if notified.



Forest Home Farm

SHORTHORNS,
BERKSHIRES,
YORKSHIRES,

and B. P. ROCKS.

Seven young Bulls, reds and roans. Some of these are broad-backed, meaty fellows, with individual merit and breeding to fit them to head any herd. Berkshire Sows, eight months old, in pig to Black Prince (5320), 2nd at Winnipeg, 1898, 1st and Diploma at Carman. Our Yorkshires are well-known. Boars ready for service and sows being bred, also young pigs. A few B.P. Rock Cockerels.

Andrew Graham,

Carman Stn., C.P.R., Roland, N.P.R. Pomeroy P.O. 2454

STUMP PULLERS

For information about them write to
H. V. FERRIS, AGENT, BAGOT, MAN.

marks not altogether on his experiments at Brandon, but combined with these what he saw in actual practice in the country.

Turning to pasture—The native grass was late in starting and often thin, with plenty of weeds. Some of these weeds, such as leeks, tainted the milk, the best plan was to keep the cows in the stable for a week or so longer and let the young stock or the beef steers have the leeks.

Neglected Pastures—There was once a heavy growth of grass on our native sod, but many of the plants are annuals and drop seed every year, thus in nature the grass was kept up. By close pasturing there was no such seeding taking place and the pasture got thinner and thinner until it was worn out, and then the pasture was condemned as being no good. He had taken a piece of old pasture, let it grow and cut it for hay; he got half a ton of weeds and hay to the acre. Right beside it he broke up an acre, and after taking off a crop or two seeded it to Brome grass, when cut for hay he got four tons to the acre, or eight times as much hay. He strongly advised breaking up old pastures and seeding them with Brome grass for pasture.

It was no use trying to re-seed without breaking up the old sod. He had cut up a piece of sod with the disc harrows and seeded it several times, but had never been able to get a good pasture. It gives a thin wiry growth of brome, timothy, or even of any of the native grasses. There is no renewing the pasture. The land seems hide bound and the only way to secure a good pasture is to break it up and seed it anew.

Selection of the Right Grass.—This was most important. The native pastures had a tendency to dry up in the late summer, and unless green feed was supplied cows and beef steers would shrink. He found that Brome grass started about two weeks earlier in the spring and kept green until the snow came, it grew rapidly and kept a head of stock.

Supplementary Feeds—He spoke very strongly in favor of fodder corn for fall and winter feeding and explained his method of cultivating it. He also recommended sheaf oats as a superior feed in his experience to prairie hay. He had grown 20 tons of corn to the acre, or more feed than a team could cut of prairie hay in a day. Of sheaf oats he had grown as much as two tons per acre on spring plowing and four tons on summer fallow. He cut it with the binder, made small sheaves and did not tie tight. He had had no trouble in saving it when set up in long stacks. He gave his experience in growing clover and strongly advocated the growing of root crops, particularly mangels, for winter stock feeding.

There was a very spirited discussion about the value of prairie hay as a milk producing food. Some condemned it, as having a tendency to dry up the milk flow, while others said that the trouble was that they did not know how to feed it. If moistened with water it became like grass and was a good milk producer. The general opinion seemed to be that very much of its feeding powers depended upon the kind of grasses that made up the hay.

In answer to a question he explained how Brome grass seed was cleaned. He only threshed the heads of the sheaves and by reversing the belt of the fanners of the separator the seed was blown so that it would come out in the boxes. When cleaning it again the fanning mill was turned the wrong way and the seed was thus brought down over the sieves into the boxes.

Angus McKay, of Indian Head, then gave a valuable paper on root growing,

which will be given in our next issue. He prefaced his remarks with his experience about hay vs. straw for milk production, which had raised such a discussion. He said that at an institute meeting at Wolseley lately, a dairy farmer said that two winters ago he had fed hay and had had good returns, last winter he fed wheat straw and the production was reduced one half; while another said that his cows did the best when they ran to the straw stack. The discussion had reminded him of a farmer he once met out in Alberta, who said he did not believe in hay, straw was the best feed, but this man had taken the precaution to grow straw six or seven feet long and then neglected running it through a threshing machine. Much of the evidence given at meetings about the value of any one kind of feed was about as reliable, because some essential factor in the transaction had been overlooked. They had not been successful in growing clover at Indian Head and had also found that the high winds did more damage to mangels than to other root crops.

WEDNESDAY MORNING.

SHEEP AND SWINE BREEDERS' ASSOCIATION.

The fifth annual meeting of the Sheep and Swine Breeders' Association was held Wednesday morning, Feb. 8th, S. J. Thompson, V.S., Carberry, President, in the chair. He made no formal address, stating that all the suggestions he had to make were embodied in the directors' report.

The secretary G. H. Greig, in his report, stated that there were several items of importance left for the executive committee to look after. One of these was the improvement of the prize lists of the exhibitions. The reports of the secretaries of the Agricultural Societies and from the representatives of the association to the fair boards show that the efforts of the association are meeting with good results. More could be done along the same line. In all 59 diplomas were awarded, 28 for sheep and 31 for swine. It was suggested last year that the name and number of the animal winning a diploma be inscribed on the diploma. He suggested that in future the giving of the name and number be a condition of winning a diploma, as he felt sure animals were awarded diplomas that were not entitled to them, because they were not registered. The membership for the past year was the largest in the history of the association. The financial statement showed: Receipts for the year, \$260.45; expenditures, \$158.63, leaving a balance in hand of \$101.82.

S. J. Thompson, V.S., Carberry, reported, as representative to the Winnipeg Industrial, that all his requests had been met and that the directors had greatly improved the hog pens. He suggested that a judging platform or ring be built to one side of the hog pen, in which the judging could be done and thus save a great deal of trouble in bringing hogs into the ring. Reports were also given by J. G. Barron, Carberry; H. Nichol, Brandon; James Riddell, Carman; Dr. Young, Manitou; K. McLeod, Dugald; and J. A. McGill, Neepawa. These reports all showed that the fair boards were desirous of arranging their prize lists so as to encourage the breeders of pure bred stock.

The election of officers for the ensuing year resulted as follows:—President, J. Riddell, M.P.P., Rosebank; 1st Vice-President, A. Graham, Pomeroy; 2nd Vice-President, F. W. Brown, Portage la Prairie; Sec.-Treas., G. H. Greig, Winnipeg. Directors for sheep—W. J. Helliwell, Oak Lake; O. W. Bailey, Portage

la Prairie; J. B. Jickling, Carman; Wm. Wallace, Niverville. Directors for swine—Jas. Yule, Crystal City; Jas. Bray, Longburn; J. A. McGill, Neepawa; K. McLeod, Dugald. Auditors—R. Waugh and Hugh McKellar, Winnipeg.

Representatives to Exhibition Board—Winnipeg, S. J. Thompson; Brandon, H. Nichol; Portage la Prairie, Jas. Bray; Carberry, J. G. Barron. Representatives to the local fairs will be appointed by the executive.

The secretary called attention to the grant which the association usually received from the Dominion Sheep and Swine Breeders' Association. Owing to some misunderstanding it was not known last year that the grant would be given until too late to have prizes entered in the Winnipeg prize lists. He had, however, received word from the secretary saying that they could count upon an annual grant of \$100 and perhaps more. Mr. Graham then moved that an effort be made to secure the \$100 that should have been given last year, as well as the grant for this year, as Manitoba breeders were paying considerable into the funds of the Dominion Association. The matter was left in the hands of the executive. The programme of addresses was then taken up.

Jas. Riddell, M.P.P., Rosebank, then read the following paper on:

THE PRAIRIE WOLF AS AFFECTING THE SHEEP INDUSTRY.

I have made this the subject of my paper for several reasons, because it is now so prominently in the minds of all engaged in sheep breeding; because I have already covered here and elsewhere, all the ground I can think of in connection with the care and management of sheep in this Province; and also because the discussion which I trust will follow, may be of use to the members of the Legislature at their next session, should this subject be brought before them. The extermination and total extinction of the wolf is, I think, an object the attainment of which should be desired and most strenuously urged by every man in Manitoba having or taking any interest in the prosperity and growth of our Province. The wolf does not confine its ravages to the sheep-fold alone, he also attacks the pig pen, the hen roost, and even the cattle in the pasture, so that every person engaged in mixed farming is at the mercy of this relentless pest.

I don't approach this subject from any interested point of view as a sheep breeder, but as a farmer in the general sense of the term. Are we, the farmers, the only sufferers from the ravages of the wolves? I say, no. You have only to ask any of our butchers or poultry dealers in Winnipeg or in any of the large towns of the Province, if they can get their supply of mutton, veal and poultry, to say nothing of eggs, within the Province, and to our discredit, you will get the reply, "No, we have to have a great deal, if not the larger part of these indispensable articles of diet, shipped in from the other Provinces, and some from the States." Hence, the consumer who to a great extent lives in cities, towns and villages, has to pay a higher price for these essential articles than he would for the home product. Speaking of the shipping in of mutton, I may mention the instance which occurred the other day, of Gallagher & Son shipping in 600 sheep from New Brunswick, therefore, I say, our city and town friends suffer alike from the ravages of the wolves, if not so direct as the farmer, they do so indirectly. It is therefore the duty of all alike to unite in the extermination of this sly, ravenous thief.

In looking up the history of legislation on this matter, not only in Manitoba and the Northwest Territories, but in several of the States to the South of us, I find that in this Province the first Act in connection with the destruction of wolves was passed in 1891, which gave the municipal councils power to enact by-laws and to fix a bounty. It would appear that this was unworkable owing to some councils taking advantage of its powers, while neighboring councils did not, consequently where wolves were killed outside the municipality in which the bounty was given, these were brought into the one where the by-law existed, justly causing a grievance. This was repealed in 1893, by an Act which made it compulsory for all rural municipalities to pay a bounty of \$2.00 per head, provided not more than \$300 be expended in any year for such purpose. This was again amended one year later, by striking out the word rural, and bringing (I think, wisely) under the scope of the Act the mu-

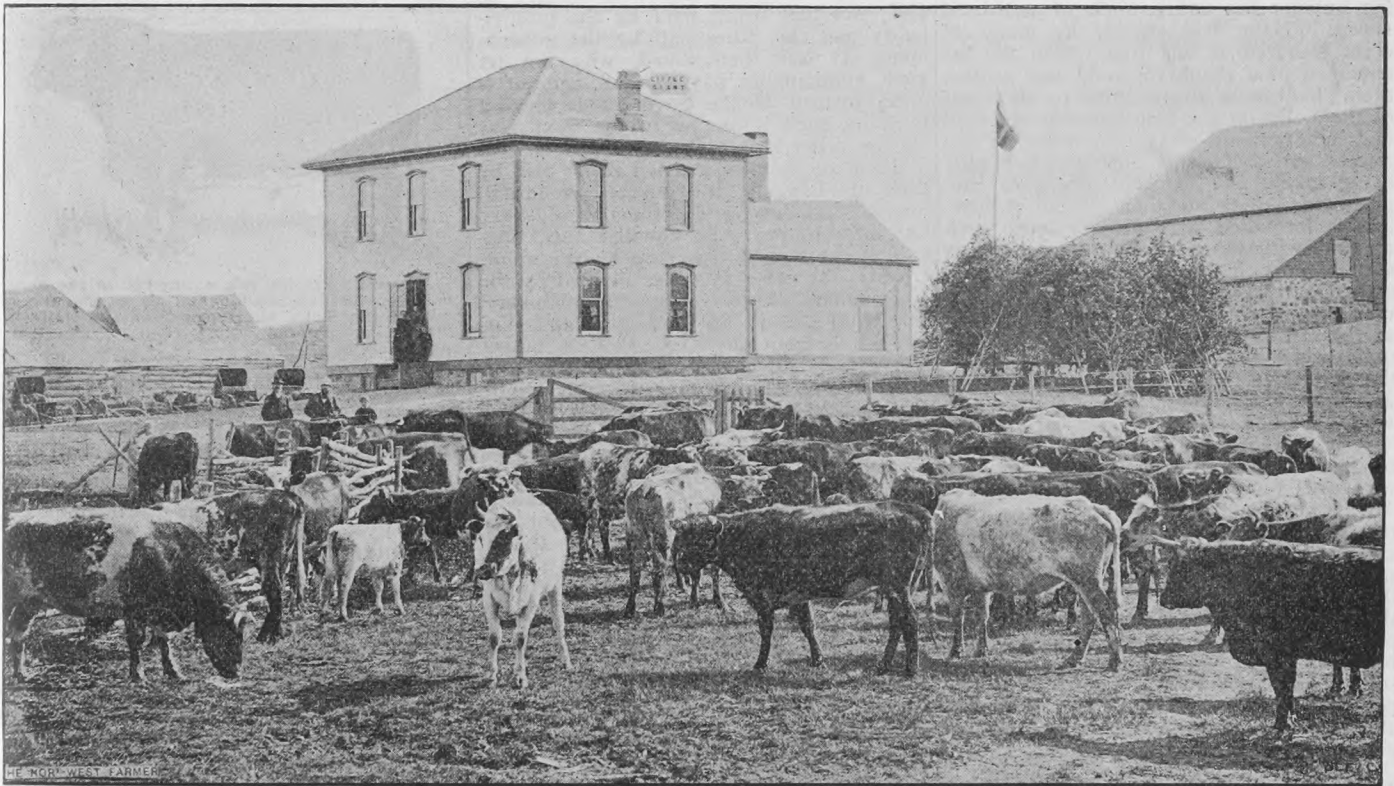
nicipalities of cities and towns. And again at the last session (1898) the bounty was reduced to \$1.00. In the face of such reduction, it may seem strange that the returns to the Municipal Commissioner's Office for the year 1898 indicate, that during that year about double the number were destroyed than the year previous. The limit at the present time that any municipality can pay out in any one year is \$300, making it possible, therefore, for the destruction in any one municipality in any one year of 300 wolves, but no more. Many municipalities paid out the statutory limit above mentioned early in the year, operating as a sort of estoppel against further destruction in the same year, proving to my mind the necessity of unlimiting the payment of the bounty.

In the Northwest Territories the Western Stock Growers' Association give, under certain regulations, the following bounties. For every bitch wolf over three months old, \$10.00; for every dog wolf over three months, \$3.00; for every pup wolf under three months old, \$3.00. Bounty for the destruction of wolves is

given in almost every one of the prairie States to the south. In the State of Nebraska the following bounties are given. Every wolf, one dollar; every wild cat, one dollar; every coyote, one dollar; every otter, one dollar. No limit is placed on the extent of the payments. In the State of Minnesota the following is the law. "Every person who shall kill a full-grown wolf during the months of January, February, March, April and May, shall be entitled to a reward of \$5.00; or cub wolf at any season of the year, \$2.00; and any person who shall kill a full-grown wolf at any other season of the year shall be entitled to a reward of \$2.00."

In South Dakota there is no legislative provision for bounty on the destruction of wolves, but a strong delegation of sheep owners and stockmen propose waiting on the legislature of that State at the next session thereof, with the view of urging that a bounty be given. Pending the accomplishment of this, these

Nor'-West Farmer. The loss of sheep as disclosed in that statement is most alarming. The products of whole flocks have been taken in a single season, in many cases the percentage of loss runs from ten, twenty, to fifty per cent. of the increase. Invariably the cause given for such enormous losses is laid to the increase in the number of wolves. In answer to the question, "Have you had any sheep destroyed by wolves?" two thirds of the answers give a ready "Yes," while less than a quarter say "No," and "these are the ones who, of course, do not keep sheep." Some of the answers are, "Lots of them," "Some every year," "Two lambs in thirteen years," "Have lost as high as fifteen and twenty in a season," "For a number of years have lost more than half my lambs every year," "I have had as many as thirty lambs killed by one wolf, at one time," "Yes, all the profit and more, consequently went out of the business," "Only one, my neighbors many," and one man, who must want to



View on the Stock Farm of Jos. Lawrence & Sons, Clearwater, Man.

(See "Among the Farmers" in this issue.)

nicipalities of cities and towns. And again at the last session (1898) the bounty was reduced to \$1.00. In the face of such reduction, it may seem strange that the returns to the Municipal Commissioner's Office for the year 1898 indicate, that during that year about double the number were destroyed than the year previous. The limit at the present time that any municipality can pay out in any one year is \$300, making it possible, therefore, for the destruction in any one municipality in any one year of 300 wolves, but no more. Many municipalities paid out the statutory limit above mentioned early in the year, operating as a sort of estoppel against further destruction in the same year, proving to my mind the necessity of unlimiting the payment of the bounty.

In the Northwest Territories the Western Stock Growers' Association give, under certain regulations, the following bounties. For every bitch wolf over three months old, \$10.00; for every dog wolf over three months, \$3.00; for every pup wolf under three months old, \$3.00. Bounty for the destruction of wolves is

stockmen and sheep owners formed themselves into an association, and an assessment of five cents is to be levied on all cattle and one cent per head on all sheep. It is evident that these stockmen fully realize that stock raising is one of the chief industries of the State, and that they must be protected from the havoc of the wolves, which it is said are growing so thick in South Dakota that it is the universal opinion that some strenuous action is necessary to accomplish their extermination.

I am pleased to see the stand taken on this wolf bounty question, not only by our two able papers published in the interest of the farmers—"The Farmers' Advocate" and "The Nor'-West Farmer," but also by nearly every paper published in the Province. These, without exception, express the necessity of some strong measure being taken to reduce this bitter enemy. I presume the most of you will have noticed the startling and convincing information collected from sheep breeders from all over Manitoba, which appeared in the December number of the

get even with some city sport, "More shot by city sports."

Over three quarters of the correspondents believe that an increase in the bounty would be an advantage, while only one-eighth are doubtful, and the balance don't express an opinion.

With the view of gaining fuller information on this subject for use on another occasion, from those engaged in sheep and poultry raising, I inserted a letter in our local papers, asking an expression of opinion as to whether the wolf bounty should be increased or not, and what loss they sustained, if any, from wolves. Invariably the replies received in answer to this said, "Increase the bounty. By all means encourage the extermination of this pest, for we can keep neither sheep nor fowl." One gentleman writes me that he even put bells on his turkeys, but that did not protect them. Another that they had the audacity to kill a high priced ram bought from Premier Greenway, the previous day. The Premier can have his revenge by taking even a stronger stand, if that were possible, in favor of increasing

the bounty, than he did last year.

Mr. Cavers, of Clearwater, lost no less than one hundred and twenty-five sheep and lambs in 1896, 1897, 1898.

Mr. Grassick, Pilot Mound, says:—"During the last two years 150 sheep does not cover my loss; within a radius of four miles four hundred sheep were kept a few years ago, while to-day there are not seventy-five. The destruction by wolves is the only cause."

John Renton, of Deloraine, says:—"I brought out pure bred Leicesters and Southdowns, averaging \$20 each, lost half the lambs, sometimes killing three a day, not satisfied with that, killed ewes also."

I do not require to weary you here with facts you are so well acquainted with. I could keep you hours quoting such extracts as the above from the numerous replies I have received. In my own district sheep have practically disappeared. Mr. Usher, one of the best of judges, and successful breeders, until the wolves got so plentiful, was compelled to sell to the butcher his entire flock of well-bred sheep. Have had myself as many as eight hundred at one time; even the attendance of a shepherd could not protect them; had made up my mind to clear out of them, but at the last moment reserved one hundred and sixty. In many of the replies are numerous instances of pigs being taken, and Mr. McKenzie, of Stephenfield, writes me that he had a yearling heifer killed last fall. Evidence such as this, with more of the same character seen almost daily in our newspapers, should surely be a sufficient and convincing answer to the gentleman who stated at the last session of the Legislature that there were not one hundred farmers in the Province who wanted any bounty, and who even doubted the ability of a wolf to kill a sheep.

It is an indisputable fact that sheep are of great value to the farmer. It requires no words of mine to emphasize this fact. Mr. John Renton, of Deloraine, writing me, says:—"It costs municipalities annually large sums for weed inspectors, I am satisfied if there were more sheep kept there would be fewer weeds. Sheep are the best weed destroyer a farmer can have on his farm, they convert noxious weeds into good mutton and wool and enrich the soil. This I consider a question of importance to the farmers of the Province, and therefore every farmer should speak out on the prairie wolf question."

It has been proven that Manitoba is favorable to sheep farming in every way, being freer from disease than anywhere I know of. I say it with regret, sheep farming in Manitoba is on the wane, it will not only become an unprofitable, but I say an impossible industry if some mighty effort is not made to exterminate the wolf.

Of course it will be expected, before closing this paper, that I suggest some remedy for this increasing evil. With a higher bounty, the greater the slaughter, provided the payment be not limited. Therefore, I say, increase the bounty and leave the payment unlimited.

If time permits, I would like you to fully discuss this subject, a resolution suggesting the changes you desire on the present Act, from such a large and influential gathering of the principal sheep-breeders of the Province may be useful elsewhere.

S. J. Thompson said he suffered more from sporting dogs than from wolves. He endorsed the position taken by Mr. Riddell and hoped that the farmers would urge upon their members in the Legislature the need of taking action in this matter. It was a difficult question to deal with, no doubt, and was made worse by the large areas of unoccupied land and this year the intense cold had brought

into the settled portions a great increase of wolves from these unoccupied districts. Having come in they may not go away again.

C. W. Peterson, Deputy Commissioner of Agriculture, Regina, being called upon, said the wolf question was a troublesome one to deal with. He thought the sheep raisers should be called upon to assist in exterminating the wolf and that the government should not have to do it all. In the Territories the money for wolf bounty was raised by a levy on cattle and sheep, similar to the way it is done in Montana. The government did not assist. He thought there was some danger with an unlimited bounty, as some of the States to the south had found to their cost.

A lively discussion followed, in which it was pointed out that if the bounty was too high it would induce unscrupulous persons to begin breeding wolves for the sake of the bounty. It was explained that the present Act limits the amount paid as wolf bounty in any municipality to \$300, one-half being paid by the municipality and the other half by the government. It was then asked, why not let each municipality pay the full amount at once, instead of the government levying back on each municipality the next year for the other half? It was explained that if the whole bounty was left to be paid by each municipality, the burden would fall heavily on a few, while others would have but little to pay. To equalize this, one-half of the bounty was paid by the municipality, the other half was divided by the government over every municipality, town and city in the Province, and thus those districts not infested with wolves were made to bear a share of the burden of protection. This is only right, if the people of the cities like mutton, they should be willing to pay their share for protecting it. It was also explained that by asking that the bounty be unlimited, it was not meant that the amount per head should be unlimited, but that the limit of \$300 in any one year, should be done away with and that there should be no limit to the amount paid out in bounty, or in other words, that there be funds enough to pay for every wolf killed at whatever the rate per head was fixed at.

To bring the discussion to a head, and to obtain an expression of opinion from the members present that could be made use of by those seeking to secure better legislation on this subject, George Harcourt, of The Nor'-West Farmer, moved and O. W. Bailey seconded, that in the opinion of this meeting the sheep industry of the Province needs more adequate protection from destruction by wolves and dogs than the present Wolf Bounty Act affords. We would, therefore, recommend the Government to make such changes in the Act as shall provide unlimited funds for payment of the wolf bounty, that the bounty be increased, and that dogs be taxed and the funds so raised be applied on the wolf bounty.

It was moved in amendment that the clause referring to taxing dogs be struck out. The amendment was lost and the original motion was carried.

The next paper was one given by Jas. Yule, manager of the Prairie Home Stock Farm, Crystal City, on

A SATISFACTORY PIGGERY FOR MANITOBA.

I think you have chosen for me rather a difficult subject, and one which could be treated more successfully by many of the breeders before me, who have had more experience in Manitoba than I have had. During the past summer we built a piggery at the Prairie Home which is proving very satisfactory and convenient. The

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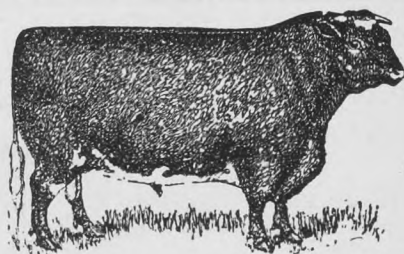
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piggery is laid out very similar to the one at the Ontario Agricultural College, Guelph, Ont. While it is true that one must study out for himself the style of piggery that will be most satisfactory, yet I do not think I can do better than give you a description of the building.

Before commencing to build it is most important that the best site be chosen. We selected one just west of the main building, where the land is fairly high and with good natural drainage. Another most important consideration was that it would be very convenient to water, for pigs will not thrive where there is a scarcity of water, especially when they are fed exclusively on a grain ration. There is also plenty of room surrounding the building for yards, as we like to give our breeding sows considerable exercise.

The piggery is 32x80 ft. in size, built on a stone foundation; the studding is 14 ft., so as to give plenty of room above for storing straw. Outside the studding a layer of half-inch lumber was run on, then a course of building paper, and finished on the outside with siding. The inside at present is finished with ship lap, the space between the studding is

joined together but left free from the cement so that the whole floor can be easily moved for cleaning out. The cement makes a clean, sweet-smelling floor, and when it is put down in a proper manner I prefer it to any other. The troughs run the whole length of each pen. The front of each pen is detached and hung on hinges so that it can swing back behind the trough when feeding. As soon as the feed is put in the trough we raise the bar and the front swings back to its place. This is a very convenient arrangement for keeping the pigs away from the trough while you are feeding. The building is ventilated by two upright shafts in the centre, which project through the roof.

There is a window opposite each pen, hung on hinges, so that it can be opened in warm weather. I consider light very essential to the health of the pigs, and the more of it we can get in the better. The water is supplied from a tank in the main barn and is conducted in iron pipes which are laid so that they can be drained off when the water is not running. The large loft is always well filled with straw. There is nothing which a pig enjoys more than

into a good marketable product so quickly and so profitably as the hog; and, in Manitoba, where there is an abundance of grain almost going to waste, there is surely room for an increase in the number of hogs kept.

Mr. Bedford asked why grouting was put in between the studding, and was told that the object was to keep out the wind. When the extra lining of lumber is put on inside, Mr. Yule thought the building would be complete.

Mr. Nichol thought the building expensive—four thicknesses of lumber.

F. W. Brown did not think so, while Mr. Yule contended that no building would pay for itself so quickly as a well built piggery.

Professor J. A. Craig spoke of the presence of moisture in so many buildings and attributed it to the lack of sufficient ventilation. He had always found that a certain cure for it. In his experience he had found nothing better than a good floor for keeping hogs right on their legs. He advocated a wooden floor for the feeding pen. He was strongly in favor of a water bath for hogs during hot weather. A hog sweats through its mouth and at



View on the Farm of Jacob Siemens, Rosenfeld, Man.

(See "Among the Farmers" in this issue.)

filled with grouting.

The grout was not put in with the intention of keeping out the frost, but only to keep the building solid. Considerable moisture collects on the walls inside and it is our intention to put on strips and sheet it up again inside with a layer of paper underneath, thus leaving a dead air space, then I think we will have a building which will be dry and frost proof. Such a wall is fairly expensive and many might prefer a cheaper one. I have found, however, that the frost in Manitoba is very penetrating, and it certainly pays to keep the pigs comfortable. I must say that our pigs have done very well so far, five sows have farrowed since the 1st of January, and all are doing fairly well; while out of 130 pigs in the piggery not one is off his feet or feed.

A passage of 8 ft. wide runs the entire length of the building; on each side of the passage is a row of pens, those for the fattening hogs being 11x12 ft. in size, and those for the brood sows, 8 x 10 ft. The floor is cement throughout and the troughs also. The back half of each pen is raised six inches by a plank floor for the pigs to sleep on, as the cement is rather damp and cold. The planks are

a clean fresh bed of straw, and if it has to be carried in from the outside on a stormy day, when they have the greatest need of it, they will likely have to go without bedding.

The feed room is not finished yet, but we intend to have it large, convenient and well supplied with meal bins, a new cooker, to steam the food has also been ordered and other improvements will be made.

Before closing, I might just say that in my experience, while a good piggery is very important, care and good management are even more essential to successful hog raising. A man with a poor, cheaply constructed piggery, but who feeds regularly and often, and supplies his pigs with plenty of clean straw, is certain to come out ahead of the man who has a first-class piggery but who neglects his pigs. During the last five years great changes have been made in the hog raising industry, then, it took over a year to mature a hog for the market, but now it must be done in seven or eight months, if we are to have any profit. A pig, to give the best results, must be fed often and no more than it will eat up clean. No class of farm animal can turn our coarse grains

the pores on the legs above the fetlocks, he thus has nothing to keep his skin clean and does so by covering himself with water or mud, which cools him, and then he rubs it off. He never had hogs make such gains as a bunch did this past summer that had access to water and willow bushes for shade and to rub against. He said the hogs enjoyed a wash in the water immensely, and he believed they made greater gains in consequence.

HOG STATISTICS.

This was the subject of an excellent paper by Hugh McKellar, chief clerk of the Department of Agriculture. It is only a few years since the first statistics regarding the hog industry were collected, but such figures as have been collected only show the number of animals in the Province, and give no idea of the number of hogs raised and eaten on the farms of Manitoba. From careful inquiry among the farmers he estimated that the average family would consist of five persons and that each family would require on an average three hogs. This gave the basis for some of the figures in the following table, the number of hogs sold being obtained from the packers:—

HOG STATISTICS.

YEAR.	Farmers in Province.	Hogs on the Assessment Roll.	HOGS CONSUMED.			
			By—Farmers.	By—Packers.	For—Export.	Total.
1893 . . .	23,000	50,750	69,000	10,000	.	79,000
1894 . . .	25,000	68,387	75,000	15,000	8,000	98,000
1895 . . .	26,000	59,467	78,000	20,000	10,000	108,000
1896 . . .	27,000	72,562	81,000	22,000	3,834	106,834
1897 . . .	29,000	74,944	87,000	25,000	12,500	124,500
1898 . . .	32,000	69,648	96,000	18,000	5,100	119,100

Although so many hogs are raised by the farmers of Manitoba, there is room for many more, as the packing houses cannot get enough to meet the demands of the mining regions to the west, but have to import hogs from Ontario and the United States. This brought to a close one of the most successful conventions ever held by the association. Several good papers were not given, but will appear in the annual report.

WEDNESDAY AFTERNOON.

PURE BRED CATTLE BREEDERS' ASSOCIATION.

The eighth annual convention of this association was one of the best, if not the best, ever held. In the absence of the president, James Bray, through sickness in his family, the chair was occupied by the vice-president, Angus McKay, of Indian Head. The president's address was read by the secretary. In it he referred to the great demand there had been during the past year for all classes of pure bred stock and especially in British Columbia and Alberta. The ranchmen liked Manitoba cattle because they were more readily acclimatized and were harder than cattle from the east. He was proud of the success that our breeders had attained and of the very creditable display they made at the last Industrial at Winnipeg.

The secretary, G. H. Greig, in his report, referred to the steady progress the association had made and the influence it had had on the local and larger shows through its representatives, in improving the prize lists. The membership was the largest during the past year than it had ever been. A handsome diploma was offered by the association for the best pure bred bull of any two beef breeds and also any two dairy breeds, at the local shows. Of these diplomas, 38 were sent out as follows:—18 to Shorthorns, 4 to Herefords, 4 to Polled Angus, 1 to Galloways, 4 to Jerseys, 5 to Ayrshires, and two to Holsteins. Reference was made to the action of the N.W. Territorial government in paying all but \$5.00 of the freight on pure bred animals brought in by the carload. The present arrangement of bringing cattle in applied only to carloads, and thus discriminated against Manitoba stock. The financial statement showed a balance on hand of \$133.17.

Officers for 1899.—President, Walter Lynch, Westbourne; Vice-President for N.W.T., James Peaker, Yorkton, Assa.; 1st Vice-President, Andrew Graham, Pomeroy; 2nd Vice-President, F. W. Brown, Portage la Prairie; Sec.-Treas., Geo. H. Greig, Winnipeg.

Directors.—Shorthorns—Hon. T. Greenway, Crystal City; Herefords—Wm. Sharman, Souris; Polled Angus—W. Clifford, Austin; Galloways—Wm. Martin, Winnipeg; Jerseys—D. Munroe, Winnipeg; Holsteins—J. Glennie, Arden; Ayrshires, George Steele, Glenboro.

Additional Directors—Messrs. J. Bray, W. S. Lister and J. G. Barron.

Auditors—H. McKellar, R. Waugh. Representative to Winnipeg Exhibition—J. G. Barron.

A discussion was then begun about pure bred stock for the Territories and freight rates. C. W. Peterson, Deputy Commissioner of Agriculture for the Territories, was present, and explained that the arrangements were made with the Ontario breeders for bringing pure bred stock to the west because they had the facilities for collecting stock from individuals and shipping it in car lots to the west. The Territorial Government did not wish to discriminate against Manitoba breeders, but as the Government could not undertake the work of collecting stock they had made arrangements with the Ontario breeders. When the secretary wrote him asking if the same privileges and terms would be given to Manitoba stock, he replied that it would, for he believed that the breeders of the Territories preferred Manitoba stock if they could get them without too much expense. He spoke of the advisability of Manitoba breeders of Manitoba taking united action in this matter and making arrangements for shipping cattle in car lots. Mr. Graham said he was one of a committee to see the C.P.R. about getting rates for a car collected at different points and it could be done. The matter was finally left for the executive committee to make the necessary arrangements.

S. A. Bedford then gave the following paper on

BARN BUILDING SUITABLE FOR MANITOBA.

I have been requested to prepare a short paper on Barn Building Suitable for Manitoba I do not purpose treating the subject exhaustively, but will simply throw out a few suggestions, which I trust will encourage discussion and draw out some useful ideas regarding this important subject. A very large number of farmers throughout the Province are making preparations to build and it is very important that they should decide on the most suitable plans for this country.

One of the first points to decide on is the style of building to be erected, as the selecting of the site will depend largely on this. While there may be some objections from a sanitary point of view to a badly built stone basement barn, I feel confident that if properly built they are the most suitable kind for the majority of farmers and for the following reasons:—Having nearly all the woodwork above ground moisture they are very enduring. They are warm in winter and cool in summer, and if properly ventilated and lighted, are healthy. A large quantity of food can be drawn in and stored during fine weather, and being above the cattle can be fed with the minimum amount of labor.

Other advantages in a bank barn are the excellent accommodation they provide for silos, for the storing of roots free of frost, the readiness with which they can be adapted to labor saving machinery such as hay slings, straw cutters, etc., and the opportunity they give farmers to use up such waste products as chaff and straw to the best advantage.

Selection of Site.—Having decided on the style of barn to be built, the next consideration is the selection of a suitable site. It should in the first place be sufficiently near the dwelling house to be easy of access and at the same time not near enough for the odors of the barn yard to prove a nuisance, possibly 500 ft. is about right. The site should be on an elevation sufficiently high to afford good drainage, for nothing is so disastrous to a stone wall as a badly drained foundation. There should, if possible, be a slope of one in ten in front of the building, and the drive ways in the rear should be at least one in five. It is very unwise to place any building in a depression, it is

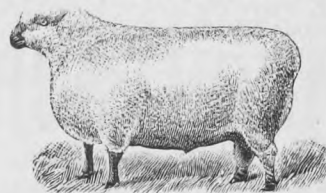
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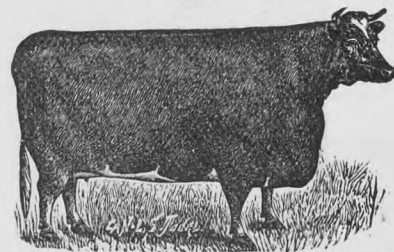
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When writing, mention The Farmer

much easier to grade up an approach to a building, if found too high, than it is to raise the building if the location or walls are too low. Another objection to a depression, especially on the open prairie, is that snow readily drifts into it and causes endless work and annoyance during the winter months.

Water.—If possible the buildings should be situated convenient to a supply of pure water, for it is a great saving of time and money to be able to utilize the one wind mill for pumping water as well as crushing grain, cutting chaff, etc. Water generally runs in narrow veins and an excellent plan is to sink a number of test holes before fixing on a site. This can best be done with a two inch auger fastened to a long square iron rod, of course if it should be found impossible to secure a suitable site convenient to water the difficulty can be overcome by placing a small windmill at the source of supply and forcing water to the building.

The Size of the Barn will of course depend largely on the requirements and means of the owner, but we must remember that a fairly large barn can be built for a comparatively less sum than a small one, and that in this country of rapid development the herds of stock are sure to increase in size as well as in numbers.

Height of Stone Basement.—Perhaps more mistakes have been made in basements than in any other part of the building, starting without any definite idea as to the proper height and the amount of stone required. The average farmer finds himself running out of stone, or is appalled at the apparent height of the wall and stops the mason work much too soon, with the result that the ceiling is low and the stable dark and unhealthy, and all woodwork is kept damp and soon rots. Many minor errors can be readily corrected, but it is impossible to remedy a low basement when once built. From nine to ten feet in the clear between the floor of the basement and the ceiling joists is about right. In estimating the height of wall do not forget to allow for floor and stall timbers. The stone wall should be two feet thick above the surface of the ground in front of the barn, and the footings can with advantage be made 2½ feet thick. A drain pipe should run all around the inside of the wall with its upper edge at least as low as the bottom of the wall, and if a little lower, all the better.

Light.—As a rule too little light is given in the average bank barn. Many have the impression that windows greatly reduce the temperature, whereas if double ones are used in winter, they are about as air tight as the stone wall and the advantage of abundance of light from a sanitary point of view is well known. We have found that there should be at least one window for each passage way. At Brandon double this number, or one for each row of stalls, is not found too many. Our windows are in two halves, so as to afford additional ventilation in summer, for the same reason the doors should also be made in two separate halves.

The Laying Out of the stalls will depend on the class of cattle kept, if these are principally breeding stock the space can best be utilized by having the passage ways running crosswise of the barn, this plan allows the stalls being made to suit the varying ages of the stock and economises space. But where the stock is composed of feeding steers exclusively, the passage ways can run lengthwise of the building, and if care is used in laying out the width all the space will be used to advantage. Stone, block or plank can be used for stall floors, but in any case good wide watertight gutters should be placed behind each animal. This precaution will greatly assist in keeping the animals clean and comfortable. When the animals are

tied up with chains it is usual to make the stalls 5 ft. long for yearlings, 6 ft. for 2-year-olds, and 6½ ft. for large cows. With stanchions, 6 inches less will suffice.

Ventilation.—One of the most difficult problems in connection with barn building in this climate is to provide ventilation sufficient to keep the air pure in the stable, without unduly reducing the temperature. On the Experimental Farm we have obtained the best results from the combination of horizontal and perpendicular air shafts. The side ventilation is obtained through transom windows over each door, which are hinged at the bottom and opened and closed by means of transom lifters. These are easily worked from the floor. The upright ventilators are equal in number to the transoms and are placed just inside of the studdings and pass through the roof a foot or so above the eaves. By hinging the transom at the lower edges the air is carried well into the building before settling on the cattle and there is no direct draft to injure them.

Superstructure.—We will now consider the superstructure, which of course should be all of good, sound timber, and will vary in height, according to the size of the building and the amount of storage required. Generally the posts are from 14 to 18 ft. long, the lower beams 8 to 10 inches square and the upper timbers from 6 to 8 inches. At the Experimental Farm, where the material had to be purchased, it was found more economical to use 2 and 3 inch planks for nearly all the upper timbers, the structure can then be well braced from every direction without increasing the weight very materially. Great care and close figuring is required in arranging the bents of the superstructure so that the posts will not interfere with the best arrangement of the stalls in the basement. To prevent moisture from the basement injuring fodder, all floors in the upper story should be double, with tar paper between.

Sheeting.—White pine makes the best and when put on perpendicularly will last much longer than when placed horizontally.

Conclusions.—If you have not already a comfortable barn, plan to have one as soon as you can afford it, and in the meantime collect sand, stone and other material, and also inspect all the good buildings possible, taking notes on their advantages and deficiencies, but rest assured that with all your care you will make some mistakes.

It provoked a lively discussion. Cement floor coming in for the best of it. F. W. Brown, Portage la Prairie, spoke very strongly in favor of them as being the cleanest and nicest floor for cattle. For pigs the general opinion seemed to be that cement floors were too cold and the sleeping place should be floored with plank.

CORN GROWING.

D. Munro's talk on corn growing was enjoyed by all. He speaks from seven years' actual experience in growing corn. He thought the subject one of the most important before the cattle breeders at this convention. Many farmers think that on account of our short season it is impossible to grow corn successfully, but the experience of S. A. Bedford, at Brandon, and numbers of others goes to show that if the smaller varieties of corn are chosen very successful crops can be raised. The best success in growing corn is not attained in those States given over to corn growing as Manitoba is given over to wheat growing, but it is in those States where mixed farming is carried on and a smaller area of corn is grown, that the largest yields of fodder corn are obtained. The silo was coming into use in

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From 4 to 12 months, of best quality and finest breeding and milk qualities. Also

FANCY FOWLS.

We also offer Eggs in season from finest matings of the following varieties:—L. Brahmas, P. Cochins, S. G. and Colored Dorkings, Houdans, B. Minorcas, G. Wyandottes, Indian Game, G. Pencilled and S.S. Hamburgs, W.C.B., Golden and Silver Polands, S.C. White, Brown and Black, R.C. W. and R.C. Brown Leghorns, Aylesbury and Rouen Ducks and Bronze Turkeys. Our fowls have won at Toronto, London and Ottawa, Cobourg and Peterboro shows in 1898.

Satisfaction guaranteed. We invite all who can to come and inspect our herd and flock.

For further Particulars write—

W. STEWART & SON, Menie, Ont.

TREDINNOCK HERD

OF

AYRSHIRES.



Winners at the leading fairs of 1898. Awarded at Toronto, London and Ottawa—16 firsts, two sweepstakes, silver medal and other prizes, in all numbering 34, among which were seven herd prizes, four being firsts, and first for four calves, bred and owned by exhibitor.

ROBERT REFORD, JAS. BODEN,
Proprietor, Manager.
2458 ST. ANNE DE BELLEVUE, QUE.

PURE BRED AYRSHIRE CATTLE.

Imported from Scotland, of the very best prize winning milking families, possessing large size, robust constitution, beautiful udders and large teats. Gold Medal herd from 1893 to 1897 at leading Canadian shows. Great prize record. Not been exhibited since. Choice Tamworth Swine—The bacon pig of the day. Stock all from noted prize-winners. Choice Collie Dogs—Imported and home bred. Won all leading prizes in Canada up to 1897, also second at New York Bench Show in 1897.

Stock all ages for sale.

R. G. STEACY, Importer and Breeder,
1876 Box 720, BROCKVILLE, ONT.

GOLD STANDARD HERD



Are still to the Front. I am now booking orders for spring Pigs sired by my two noted boars "Fitz Lee" (an 800 lb. hog) and "General Booth," and from a grand lot of sows of the choicest breeding. Two litters farrowed in January, and sows due to farrow every month. Unrelated pairs supplied. Correspondence solicited. Address—

J. A. MCGILL, Neepawa, Man.

For Sale

The thorough bred
Shire Stallion

BLACKSMITH (No. 8796)

Owned by the Rathwell Stud Horse Syndicate. Has taken 1st in his class at the Winnipeg Industrial for the last seven years. For further particulars apply to CHAS. ARCHER, Sec.-Treas., RATHWELL.

BULLS for the N.W.T.

Arrangements have been made by the Pure Bred Cattle Breeders' Association whereby pure bred Bulls will be shipped from Manitoba to the Territories under arrangement with the Territorial Government. Purchaser will only have to pay \$5 freight per head. Apply to Department of Agriculture, Regina, for conditions, etc. The first car will likely leave early in April. Animals carefully looked after in transit.

GEORGE H. GREIG,

Secretary Pure Bred Cattle Breeders' Association,
Winnipeg, Man.

GOMBAULT'S is the only reliable and safe CAUSTIC BALSAM on the market. It is manufactured in France and guaranteed as represented.

Manitoba and would be found a most excellent method of providing succulent food for stock in winter.

In selecting a field it is not undesirable to take the oldest and dirtiest land on the farm for corn, as the cultivation given it will clean the land and furnish a crop at the same time. He had found a good piece of sod land give an excellent crop of corn. If manure is to be applied, draw it out in the winter and spread it. Harrow it as early in the spring as possible, then plow when the land is ready and harrow immediately after to retain the moisture. Continue the harrowing as frequently as possible before planting the corn and afterwards, the object being to kill weeds and preserve moisture. If the harrowing is well done, by the time the corn is six or eight inches high the weeds should be pretty well killed and work with the horse cultivator and by hand will then be very light. This is a most important point in our short busy summers. Cultivation with the horse cultivator should be shallow and no soil thrown against the corn.

The best soil is a warm sandy loam, but corn will do well on any soil. The seed is an important point. He had tried some 10 or 15 different varieties, but found that the big ones were unsuited to this climate. He thought the North Dakota Flint most suited to our climate and our needs as a fodder corn. It is not a dent corn, and he was doubtful if any dent variety would do well here. The flint varieties have all more or less rounded kernels, while the horse tooth varieties have the tops dented, are long and narrow, and a much softer corn.

The early varieties that will mature before frost comes are the best varieties to grow here as they contain the most feed, while the larger varieties contain too much water.

Planting broadcast he condemned as being very undesirable, it was useless as a cleaning crop, and though it looked like a large crop there was much less actual food in it than in an apparently smaller crop in drills. Corn should not be planted too early nor yet too late, about the 15th to 20th of May was a good time. He sowed his with a grain drill, in a fine seed bed, about 3 inches deep, so as to get sufficient moisture and thus ensure a quick germination. By testing the drill on a piece of hard road it can be set to drop a grain every 6 to 8 inches. This will be thick enough for the stalks to grow in the row for best results.

He found the North Dakota Flint grew from 6 to 7 feet high and was very heavily eared, it also stood well. He cut his with an open end binder, one row at a time, and thought it was the best way, because it saved labor in a busy time on a wheat farm and if not going into a silo was ready to stook and dry.

He had found corn quite equal to a fellow for cleaning the land, and has had some good crops of wheat on corn land. The corn stubble is not in the way and he sowed the land the following spring without plowing it, only going over it with a cultivator. Corn was not a balanced ration, but fed with bran and sheaf oats it had given him excellent returns. With corn, cattle and manure it was possible for the Manitoba farmer to reach a high standard of attainment.

A lively discussion followed, in which Mr. Bedford stated that he had had most excellent results from growing corn.

The following paper, prepared by Walter Lynch, Westbourne, was not read at the meeting owing to lack of time, but we give it here:—

HOW CAN WE PRODUCE THE EXPORT STEER?

When your committee asked me for a paper on this subject they gave me an

easy job, but I have set myself a far harder task in trying to consider how we can produce him at a profit. If I were to simply answer your question, I would say get calves and give them plenty of good food and attendance and in time some of them will grow into steers fit for export. Of course they may and probably will cost you a good deal more than they will sell for, but that is outside the record. Besides, this part of my paper is for those who have money to lose in some way, and I do not know of any easier or more certain way of losing it, in legible business, than by handling naphazard cattle in a haphazard way. It beats poker out of sight and is not open to the charge of being a game of chance. There is no chance about it, but as these men do not need any advice from me, I will cut this part short and address myself to those who, like myself, have to get their bread and butter out of their business. I do not believe, I never have believed, that meat of any kind can be produced as a separate industry. At present prices I have seen it proved, theoretically, a thousand times, that it can, but every time I have seen it so proved, I have been more firmly convinced that it can not be done.

What I mean is that the steer that gives no return except his beef values will not pay the cost of production on land worth \$15.00 or even \$10.00 an acre, or on land where the rent and taxes amount to \$1.00 a year (I am referring to wild land), just the same as a pig will not make a profit if fed entirely on marketable grain at fair prices. Then how are we to get him? I think I see three ways of doing it, but each of them has its disadvantages. The first way is to steal him, as nearly fit for the market as possible. The second way is to raise him at some other person's expense; and the third way is to raise him ourselves in connection with other industries, sometimes called "mixed farming."

The first way is the easiest as well as the most ancient and was till quite recently thought the most gentlemanly way of "raising cattle." But it has several disadvantages. The stealer does not take kindly to the operation and sometimes makes trouble about it, either at the time or afterwards. But even a greater disadvantage is the difficulty of finding cattle that an honest man can steal without forfeiting his self-respect, for there are terrible lots of cattle that are not only a disgrace to their owners, but would be even a greater disgrace to the man that stole them.

The second way is "raising them at some other person's expense." There are several ways of doing this, one of them was well illustrated when Sandy told Tonal that "Dugal" was in gaol for stealing a coo. "Stealing a coo?" said Tonal, "what for ta fool will not pocht ta coo, and not pay for her," but as this way is a little worse than stealing her, we will not consider it. What I had in view when I spoke of raising them at some other person's expense, was the large amount of vacant lands in some parts of this country, where a man may graze his cattle and cut hay for them free of expense, or nearly so. Here a good lively theorist can figure out fortunes that dwarf the Yukon gold finders into pigmies. We will figure on it later on. But I just want to stop here to say that I believe the first step toward a systematic production of first-class steers for export, either dead or alive, will be taken when the older and more expensive land that is now devoted entirely to wheat growing shall have struck work—when its fertility is so far exhausted that wheat-growing alone will not be profitable. That time is probably much nearer than many of us anticipate. Then the wheat grower will try how much manure he can make, instead of, as

HORSES, Etc.

Correspond with the oldest established Horse Market in Canada if you require anything in the way of Farm Horses, Drivers or Brood Mares, new or second-hand Carriages, Buggies, Phaetons, single or double light or heavy Harness, Saddles, Bridles, Blankets, Robes, Rugs, etc. We keep every Stable Requisite.

WALTER HARLAND SMITH,

ATTORNEY AND PROPRIETOR,

"Grand's Repository," Toronto, Canada.

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CLYDESDALE HORSES



AND
SHORTHORN CATTLE.



I have a number of promising young Stallions for sale.

My Shorthorn herd is headed by "Best Yet," bred by Hon John Dryden, of Brooklin, Ontario. A number of young stock of both sexes, all registered, are for sale, and can be recommended as first-class animals.

Correspondence solicited. Prices right.

J. C. & A. W. FLEMING, PILOT MOUND, MAN.

Breeders of Ayrshire Cattle, Cotswold Sheep, Poland China Pigs, Barred Rocks, and other breeds of poultry. Growers of all the best varieties of POTATOES. Seed for sale.

Send for Catalogue, and mention this paper.

English Berkshires—B.P. Rocks.

For Sale 6 young Sows ready to breed; 2 young Sows recently bred; 1 Sow due to farrow March 1st; Boars fit for service; also a few choice Cockereels and Pullets. Enquiries promptly answered.

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W. L. TRANN, CRYSTAL CITY, MAN.

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Breeder and Importer of

POLAND CHINA PIGS,

Finest breeding pairs not akin. Some fine young boars for sale for spring use, also young brood sows. Also several young Light Brahma Cockereels for sale.

HOPE FARM,

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Headquarters for GALLOWAY CATTLE.

Apply to **T. M. CAMPBELL, Mgr.**

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SCOTCH-BRED SHORTHORN CATTLE

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Have a nice lot of Boars ready for service, also young sows. 3 Ayrshire Bulls, also some choice cows and heifers. Crowded for room, and will make prices low. **Caldwell Bros., Brery Bank Farm, Orchard, Ont.**

now, how much he can destroy, and if he has not carried the exhausting process too far, will grow coarse grains for the purpose of feeding to make manure, which will then have a cash value and which he will count on as a part of his profit in feeding. For this purpose he will go to the ranges and buy steers at 30 months old to finish for export at 3 years. He will need to have good well bred cattle, for he cannot afford to feed poor ones and the ranchmen will not only have to breed a little better but he will also have to feed a little better, for the first year at least, and furnish a steer weighing 1200 lbs. off the grass at 30 months. For this the farmer will have to pay 3 cents per pound and finish him to 1500 lbs., at 4½c. per lb. That, with the manure, will be a fair profit, no more. How will the ranchman on free land come out on such a deal? Let us see. The cow to produce a steer of that kind must be a good one and suited for the purpose and at 3-yr.-old will be worth as much as a steer at 30 months, \$36.00. He must get interest on that investment, a fair allowance for depreciation in value and insurance, service of bull, cost of keep, and 20 per cent. added for failure to breed one year out of five, which I figure out in this way:—

Interest on cost of cow at 8 p.c....	\$ 2 16
Depreciation in value, 10 per cent.	3 60
Service of bull	2 00
Keep of cow and calf for one year, including grain for calf ...	12 00
Insurance, say	24
	<hr/> \$20 00
Failure to breed, 20 per cent.	4 00
	<hr/> \$24 00
Less 20 per cent., of cost of winter- ing calf	1 40

Cost of steer at one year	\$22 60
Cost of keeping steer 18 months ..	6 00
Insurance, say	40

Cost of steer at 30 months\$29 00

Leaving the ranchman \$7.00 for shelter and profit. That is a fair profit, but no more. Still it probably beats the average of the Klondike. If he has to sell for 2½c. he would still have a profit of \$1.00, but if he had to pay \$1.00 an acre in rent and taxes he would just be in the hole \$8 or \$14, according to whether he sold at 2½ or three cents a pound.

These figures are for the snow belt, where cattle have to be fed and sheltered all winter, and they may not be absolutely correct, but I don't think they are very far out. If so, I expect to hear of it. On the ranges proper, further west, they may be raised a little cheaper, but the larger percentages of failure to breed will go a good way towards equalizing their cost. Then these wilder cattle will not feed as well at first and will probably be worth a little less to the feeder. I have figured the increase in a domestic herd at 80 per cent., but am told by good authorities that 60 per cent. is more than the average on the ranges. In fact I have heard ranchmen say that if they could get good year-olds at a fair price they would never raise a calf.

This is one case where figures and experience agree, and I want you to notice particularly that it is the first year of the steer's life that knocks the profit off him, for it is evident that if the steer on free land costs \$22.60 at one year old, he would cost, on good wheat land, more at that age than he would be worth at 30 months. Since writing the above, I have seen a report of an experiment by Prof. Shaw, of Minnesota, on the cost of raising a steer on foods at their market value there. He charges only the actual value of the food consumed and estimates the value of the manure to be equal to the

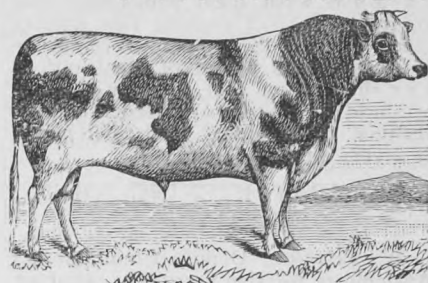
cost of straw for bedding, attendance and interest on investment, which in his case is not much, as he got his calves for nothing, which is all very well for the man who gets them, but the man who gets no return from his cow but the calf will not get rich very rapidly in that way. He simply made the Professor a present of \$15 on each calf, which in a stricter reckoning would have to be added to the cost of the steer. The food for the Professor's calves cost, for the first year, \$15 each. My estimate makes the cost of the steer when dropped about \$15, making the cost of the steer when a year old, \$30, instead of \$15, leaving a profit of \$4 on the finished steer instead of \$19, and I believe these figures are not too high on land having even a low rental value, and even if we value the manure as high as the Professor does. It may and probably will very soon be worth as much here, but at present most Manitoba farmers will dispute that valuation.

This brings me to my third and last way of producing this steer. "Raising him in connection with other industries." I would say as part of a system of "mixed farming" only, I am thoroughly sick of hearing that expression, as I suppose most of you are, and as I do not want to be responsible for any profanity, I call it something else, though in reality it means the same thing. Evidently \$30 is too much to pay for a year old steer. I do not see how we can reduce that cost, but we can offset it. We can do in this case what is done in all well regulated families, make the parents pay for the keep of the youngsters up to a certain age. But as is the case in too many families when the papa is a bit of a rake and will not support his family—the mother must. She must not only feed them up to a certain age, but during that time she must do something to provide him with a Christmas dinner. Now the cow that will produce a steer suitable for feeding, is not one that will make 3 lbs. of butter a day for 400 days in the year. But we can cut that estimate a little. Suppose her to make one-third of that amount for half the time, or 200 lbs. of butter a year and feed her calf, she has solved the problem—\$25 for butter and \$5 for feeding her calf, and we have him at a year old for nothing. But we must admit that such a cow will need and deserve a little extra feed, and we can give her a fair allowance and still have the calf at one year old for \$10. Professor Shaw's steers weighed nearly 700 lbs. at one year, which would make them cost only about 1½c. a pound. The man who cannot take them at that price and finish them at a profit is beyond redemption and there is no use preaching to him.

In my original estimate there is \$2 put down for service of bull, but there is no reason for this on a well conducted farm. There is no earthly reason why a bull should not work every day, do something for the support of his family and be all the better for it. I said he is a bit of a rake, but that is because he has been taught no better. It would be as easy and a good deal safer to teach him to be a slave.

Professor Shaw closes his paper by saying that farmers raising their steers need not fear the competition of range cattle. This paper would almost indicate danger to the ranchmen from the farmers, but it can only be done on a small scale, for on the farm half a dozen steers might be raised at a profit, where a dozen would be raised at a loss. I said early in this paper that a man could only afford to handle good cattle, and have gone on that basis throughout. Professor Shaw had pure bred Shorthorns, if he had had something better he would no doubt have made more money out of them. If any one wants to

HOLSTEINS and YORKSHIRES.



Gretqui Montgomery Prince, 3 years, dam Gretqui, (2nd at Toronto Dairy Test, 1895); diploma Bull at Brandon, 1898: one 5 months Bull Calf. Yorkshires for spring delivery. Prices reasonable.

A. B. POTTER, Montgomery, Assa.

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Breeder and importer of

SHORTHORN CATTLE.

I have on hand some fine young stock of both sexes for sale, including **Royal Duke** (24640), a dark red, 8-year-old. Write for prices before purchasing elsewhere. 2474.

JERSEY BULLS

FOR SALE.

I am now offering my stock Bull, **BELVEDERE STOKES** for sale, also several young Bulls. Write for particulars.

WM. MURRAY,
2340 Dugald, Man.



Ridgewood Stock Farm, Souris, Man.

WM. SHARMAN,

BREEDER OF

High Class Herefords

A few early Bull Calves for sale.

Thorndale Stock Farm

JOHN S. ROBSON,
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Breeder of SHORTHORNS. Long established, reliable pedigrees; straight dealing always. Young stock of both sexes always on hand. Write early if you want them. 2185



JERSEY BULL FOR SALE.

No. 50202, 2 years old in February. Solid color, black tongue and switch. Took 1st prize in Winnipeg as calf.

H. R. KEYES, Midway, Man.

WALNUT GROVE SHORTHORNS.

We are offering five Bulls from 7 mos. to 2 yrs. of age. Stock Bulls (imp) Warfare (56712) and (imp.) Royal George (17106), and Centennial Isabella, Scotland Yet (23375), also a few Heifers.

A. & D. BROWN, Iona, Ont.

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find fault with these figures I hope it will be in the way of showing that steers can be raised cheaper and sold dearer. But I would warn them beforehand that when people talk of making two pounds of meat out of one pound of grain, or even making one pound of meat out of two or three pounds of grain they are a little ahead of the average feeder and he is inclined to accept all such statements with a very small grain of salt.

WEDNESDAY EVENING JOINT MEETING.

C. W. Peterson, Deputy Commissioner of Agriculture for the Territories, read an able paper on the Interdependence of the Cattle Industry on the Farm and Ranch. This paper was full of interest and showed a full practical acquaintance with his subject, but we are compelled for lack of space to hold it over to a later issue.

Mr. Jas. Glennie, Orange Ridge, then gave a very pitiful and humorous review of the difficulties connected with the breeding and rearing of the western dairy cow. He believes in the special purpose cow. This paper must also be held over.

Dr. J. G. Rutherford, M.P., owing to his connection with the Manitoba Hotel fire, failed to present his subject, "Stable Hygiene," with the fullness that he intended, but gave the main features of the system of ventilation which he found worked well in his stable and for which he acknowledged his indebtedness to a green Englishman. Assuming that the stable is built tight enough to need artificial ventilation, his great reliance is an automatic supply of fresh air by means of

air corresponds. Just enough air comes in through the pipe to replace the warm foul air that gets out through the shaft, and that goes on all the time. In a small building he would have his up draft shaft about the centre. For a big barn more inlets than one would be necessary and he would have the outlet right across one end of the building, at the ceiling, narrowing as it went up, so causing a gentle current along from the points of inlet to the points of exit. The principle of ventilation here recommended has been seen in operation for years in the doctor's own stable, and its value was strongly endorsed by Messrs. S. J. Thompson and R. Waugh, both of whom are well acquainted with the building.

The last paper of the evening was by Professor J. A. Craig, Iowa, on Sheep, Good and Bad. By means of large photographs he showed the forms most likely to conduce to profit or the reverse. He showed a very extensive and thoroughly practical acquaintance with his subject. We hope to give this paper later on. At the close of his talk on sheep, Mr. Craig offered some very noteworthy details of his experience in handling the dual purpose cow and her offspring, thus following up the papers of Messrs. Peterson and Glennie, which were read earlier in the evening. He said they had at the Iowa farm a number of pure bred Short-horn cows that were heavy milkers. They had been trained to it by removing the calves at birth and milking the cows for 10 and 11 months in the year; this had been done for generations. As showing what the calves from a general purpose type of cow can do, he took 14 of the calves from these cows, raised them on skim milk and began fitting them for the Christmas market at a little over 2 yrs. old. He decided to show them at Omaha in October, when they were just under two years old, thus showing as yearlings.

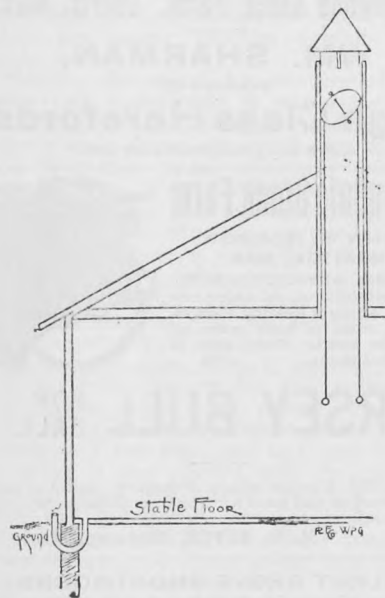
Their average weight on leaving for Omaha was 1425 lbs. (Reference was made to these steers in the November issue of The Farmer.) The best steer of the lot weighed 1500 lbs, and his dam has a record in 11 months of 7,464 lbs. of milk, making 312½ lbs. of butter. He was satisfied with a cow that would make a 1400 to 1500 lb. steer at a little over two years old. Such cows can be had if the farmers will set to work the right way to get them.

In reference to some of Mr. Peterson's remarks, he said that the ranchers to the south found the Herefords the best cattle on the range, but when put into the feed lot the Polled Angus made rather the highest gains and frequently brought a higher price on the Chicago market. They got in a lot of range cattle last fall and dehorned them, this cost them an average loss of 40 lb. a head, horns included, and required two weeks to make it up again. But they fed so much better that it was the better way.

Mr. Peterson had pointed out the possibilities of breeding young stock on the farms of Manitoba and sending them to the ranges as stockers. Professor Craig said they were now beginning to do the opposite to that in some places in the south. The young stock were being sent east to be grown and fattened more rapidly than it could be done on the range.

The most successful men on the range had chosen one breed and stayed with it. The same thought applied to the farmers in producing a general purpose cow. These cows on the Iowa farm had been bred and handled for milk for five generations, i.e., the calves were removed at birth and the cows milked by hand.

In reply to a question as to how the steer calves were fed, Professor Craig said they were November calves, were fed on separator milk, with crushed corn and bran,



a U pipe underneath the wall at the floor level. The pipe may be of clay or iron, the doctor himself uses a wooden one for the purpose. As the complement of this a tube or shaft of any kind is carried through the ceiling and from thence to the roof. The ventilation works most satisfactorily if the ceiling is smooth—either plaster or boards, and for the best results there should be a slight slope in it, so that the warm air rising will not be obstructed on its way to the bottom of this ventilating shaft. To prevent undue rush of air a damper is fixed inside the shaft and controlled by a cord below. The point is to have no more air going up the shaft than is consistent with the comfort of the stock inside. If it is cold weather the damper is only kept slightly open and the inrush of pure air from the outside through the pipe is correspondingly limited. But if more air is wanted the damper is thrown more open, more warm air ascends through the shaft and the inrush of fresh

Swollen Neck

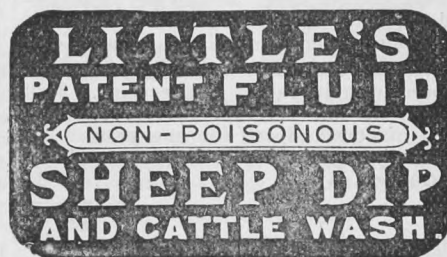
Also Had Great Difficulty With Her Heart—How Cured.

"My daughter had a swollen neck and also heart trouble. After the least exertion she would breathe so hard she could be heard all over the room. She could not sweep the floor or even move her arms without affecting her heart. Her limbs were badly bloated. Her father insisted that she must take Hood's Sarsaparilla, and we gave her about six bottles, when she was cured, and there has been no return of her ailments." MRS. EMMA THOMAS, North Solon, Ohio.

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CATTLE, HORSES, PIGS, Etc.

Cleanses the skin from all Insects, and makes the coat beautifully soft and glossy.

Prevents the attack of Warble Fly.

Heals Saddle Galls, Sore Shoulders, Ulcers etc Keeps Animals Free from Infection.

NO DANGER, SAFE, CHEAP AND EFFECTIVE.

BEWARE OF IMITATIONS.

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Send for Homeopathic Guide and doctor yourself. D. L. THOMSON, Homeopathic Pharmacist,

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Established 1868.

Mention this paper.

as grain feed, they were well fed during the first winter, had good pasture the following summer. They were taken up in November and fed corn cob meal, bran, oats and cut hay as much as they would take. When they were through with their training these animals were eating as much as 26 lbs. of grain a day.

THURSDAY MORNING.

MANITOBA DAIRY ASSOCIATION.

The 13th annual meeting of this association was held in the Winnipeg City Hall, February 8th, W. M. Champion, president, in the chair. The directors' report reviewed the conditions of the past dairy season. There had been a falling off in the quantity of factory butter produced last year as contrasted with the year before. One cause for this was the high price paid for dairy butter by country merchants, who had afterwards to sell at a loss for consumption at railroad construction camps. Owing to this cause the Manitou creamery had closed down in July and others made a short season. Perhaps reduced railroad transport charges would help to concentrate the business at convenient railroad centres and at present creamery enterprise has a tendency that way. Mr. Munroe, as representative at the Industrial Show, had done excellent work, and in giving account of his stewardship made valuable suggestions for the details of next season's show. All packages should be enclosed in burlap, so as to come out clean when presented to the judges. Owing to the extreme heat on the day of the test, the dairy cows did not come up to their usual excellence and were not reported on to the public.

The income and expenses for the past year was as follows: Receipts—Cash on hand from last year, \$13.41; membership fees, \$68.00; government grant, \$200; sundry, \$3.00; total, \$284.41. Disbursements—Delegates' railway fares, \$44.35; advertising, etc., \$31.63; stamps and stationery, \$24.70; telegrams, \$40.83; secretary's salary, \$120; sundries, \$1.05.

For the Pilot Mound Creamery, Mr. W. Grassick reported to the following effect. They had now run three full seasons, making in 1896 38,370 lbs., in 1897, 49,456 lbs., and in 1898, 59,116 lbs., which sold at \$10842.75. The first year's sales averaged 16½c. per lb., the next, 17½c., last year 18½c. In 1898 the cost of manufacture was 4.75c. They began May 1st and closed November 1st. Some of the patrons only sent cream in the three mid-summer months, when prices were at the lowest. The patrons who contributed all the season made a net average of 14c. A dry spring and the drying up of their well were special drawbacks, and severe competition from the stores kept down the contributions from their patrons. The creamery is owned by the patrons, which is one good reason for their loyalty, in spite of temptation from the storekeepers. The bulk of their output was sold to the two largest city dealers, the J. Y. Griffin Co. and the Parsons Produce Co. With both their dealings were most satisfactory. Prospects for increased patronage, and reduction of the cost of manufacture was very good, and the experience of the past will be valuable.

Mr. Grassick thought the essentials to success were as follows: The factory should be central to the district it is meant to work, and all its stock ought to be owned by its patrons. Fair wages should be paid to a reliable butter-maker and cream collectors and a spirit of loyalty to their engagements should prevail all through. That and sound business management will ensure success in any district where a sufficient number of good

cows are available and form a solid basis for continuous and growing success.

Mr. A. R. Fanning reported for Newdale Creamery, which may be regarded as the best example yet known in the Province of a well-managed and successful creamery. The last was their fourth season. It started May 2nd with a butter-maker at a salary of \$62.50 per month, cream hauling at 1c. per lb., president and secretary \$150 for the season and the butter milk sold at 5c. per cwt. They ran six months, 1 week, and in that time made 77,211 lbs. butter, which sold close to 18c. per lb. Out of this the patrons got a trifle under 15½c. per lb., the cost of manufacturing and management being only 2½c. per lb. The patrons had stood loyally by their engagements and the store-keepers had offered no unfair opposition. There are in all 85 patrons, of whom 34 sent enough to make over 1000 lbs. of butter each, three sent enough to make 2000 lbs. each, and one had over 3,500 lbs. to his credit, or an average for the whole of 908 lbs. The outlook for the coming season is very satisfactory. The farmers are increasing the number of their cows as fast as their means will allow. The prospect for 1899 is 100,000 lbs.

They had had trouble owing to defective water supply and imperfect cold storage, causing in one case mouldy butter. Over against this may be set an increase for the season over the previous year's make of 21,000 lbs. and two first prizes, a gold medal and diploma, at the Winnipeg Exhibition. The \$45 prize money was paid to the maker. While well satisfied on most points, Mr. Fanning has still to complain of the shabby treatment given to cows during the winter season, which decreases their producing power when they are in milk.

Manitou presents a lively contrast to the Newdale district and the lengthy report presented by the secretary, W. D. Ruttan, is a pretty fair sample of the way not to do it, if you want to make the creamery a success. They hired a capital butter-maker, started on May 16th and closed on July 11th. Lack of patron-

age killed it. The store keepers shipped out about 150,000 lbs. dairy butter in the season, not at all to their own profit if all tales are true, but they killed the creamery by offering much higher prices in trade than the ultimate selling prices warranted. Besides the opposition from the merchants there was no cordial support from the patrons, most of whom appear to have been prepared to bolt as soon as any pretext offered for quitting. The district is well able to maintain with advantage a capital creamery, but for want of cordial co-operation the venture has been a failure.

Austin is a fair specimen of a factory with poor patronage, and not doing enough work to pay its way. The year's make in a five months' season was 27,000 lbs. and the patrons that stuck to it got 12c.

AFTERNOON SESSION.

At the afternoon session the following officers were elected:—

President, D. W. McQuaig, Macdonald; 1st Vice-President, Richard Waagh, Winnipeg; 2nd Vice-President, W. M. Champion, Reburn; Secretary-Treas., Miss E. C. Hini, Winnipeg; Directors, G. Harcourt, W. Grassick, J. D. Hunt, J. T. Reigher, W. B. Gilroy, E. A. Struthers, A. R. Fanning, Wm. Scott, Representative to Exhibition Board, D. Munro, Auditor, Geo. H. Greig.

The duty of the patron to the creamery was discussed by J. D. Hunt, Carberry, and D. Jackson, Newdale. Mr. Hunt presented a very able review of the case from a business standpoint. Without thorough organization, loyalty to pledges, skilled work by the makers and cream collectors and good business management on the part of the directors, no co-operative concern such as this could be carried along, and the failures of the first year or two should be used as lessons later on. Experience is sometimes pretty dear, even when we can afterwards turn it to good account, but still dearer if we fling it under foot as is too often done by creamery patrons.

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In a test of Hand Separators at the Pennsylvania State College, in which six different makes of Cream Separators were tested, including "The Mikado," "The Empire," "De Laval," and "National," the following conclusions were reached:—

"Considerable difference seemed to exist between the various Separators as to substantialness and durability."

"There is no difference in the quality of cream delivered."

"There is no difference in the churnability of cream."

"The choice of a Hand Separator should be influenced very largely by its first cost and its apparent durability."

"The Mikado is a comparatively new machine on the market, and will undoubtedly attract more or less attention from the private dairyman, inasmuch as it is one of the cheapest in first cost." "This Separator is a very small machine for its capacity, but is not as substantial as some of the other Separators in the test, and has the disagreeable feature of making considerable noise while running."

"The Empire (Hand Separator) is another comparatively new machine, and, like the Mikado, is comparatively cheap in purchase price. In the operation of it, however, one could not fail to notice that it lacks substantialness, which would count against it for a durable machine. The noise which it makes is excessive and disagreeable as compared with the other machines."

"National.—The tests of this machine were not so satisfactory as those of the others."

Mr. Jackson said the patron's duties are manifold. They begin with the selection and care of the dairy cow. She should have the right dairy qualities, be comfortably housed, judiciously fed, and milked with a kindly hand. The udder must be clean, and every vessel used, from the milk pail onward, equally clean. The management of the cream must be understood and carefully attended to. A good reputation is a great thing for every creamery and every patron does his share to make or mar that reputation. One patron with dirty or ill-managed cream will do more harm than half a dozen good ones can remedy. The cream must be kept in a cool place where no foreign odors can reach it till it can be carried to the factory.

We should be loyal to our creamery, and if we have or think we have a grievance, go straight to headquarters with it. It does a lot of harm to talk all over the country about the faults we think we see. Make a good and early start yourself whenever the creamery opens and stay with it until the finish. Remember it is the creamery that has made even the price of dairy butter what it is to-day, and it is in the best interests not only of the man that supports the factory, but of every one that makes butter, that our dairy factory system should be maintained and cows bred and good milkers employed to extend this industry, till the rule everywhere will be that dairy factories are popular and profitable.

THE CARE OF CREAM.

On this subject Dairy Commissioner Macdonald spoke shortly. He pointed out that on the cream-gathering plan, which in a thinly settled district is the only one available, very much trouble might be caused by improper handling of the cream. If newly drawn cream is mixed in a careless way with that already collected, it will cause bitterness, and no after care on the part of the butter maker can remedy the first error. After cream has been separated, which should be done as fast as it comes from the cow, it should be aired and the can put in water of a low temperature till it is to be taken to the factory. It is a great mistake to mix the warm cream with that drawn the day before. The deep setting plan is better than shallow pans, but is away behind the separator. As an evidence of the benefit of using the separators, Mr. Macdonald stated that they had experimented with deep setting vs. separator at the school this year, and had made two pounds of butter from 150 pounds of skim milk from deep setting cans. Mr. Macdonald further stated that he believed the oil test churn to be the most reliable way of getting at the value of the patrons' cream. It was very necessary, however, that the sample should be properly taken, and in order to do this the cream should be poured from vessel to vessel at least three times in order to mix it thoroughly, and make the sample a fair one. If this were done and the butter maker carefully churned out the cream, it was a reliable and should be a satisfactory test of the patron's cream.

The following paper, by Alex. Scott, Hamiota, was then read:—

CAUSE AND CURE OF MOULD IN BUTTER.

It is right that I should inform you that much of the information in this paper is contributed by my father, Wm. Scott, Winnipeg, manager for R. A. Lister & Co., and he in turn has borrowed freely from a lengthy correspondence with Professor Robertson on the subject. The conclusions arrived at being the result of so much combined wisdom will be the more readily accepted by you.

The secretary has shown good sense in putting this subject on the programme for discussion, as it is a very important one. The tendency of Manitoba creamery butter to mould has been a very serious trouble to the trade and, from the nature of it, is likely to get worse every year, like the noxious weed trouble, unless grappled with vigorously. Salesmen in British Columbia last summer inform us that they saw lots of Manitoba creamery butter there, from different factories, quite spoiled from this cause, although it was not many weeks out of the factory. Shipments to England in 1896 that showed perfect grain, color and flavor, were very difficult to sell, even at a greatly reduced price, on account of mould all round the surface, which penetrated quite deeply into the contents of the packages.

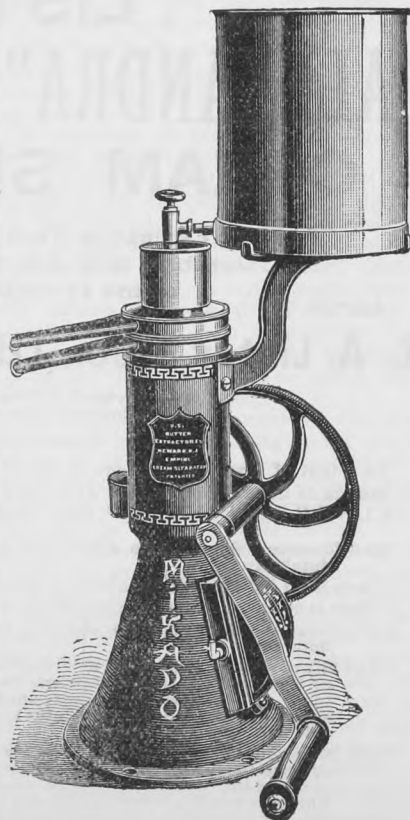
There is here a package from a lot of 100 lbs., that will illustrate the loss that may arise from this cause. This lot obtained a second prize at the Industrial Exhibition last summer and there was one man who thought it should have had first. That, of course, was the exhibitor. He declined 15c. per lb. for it, preferring to hold it for winter prices. It was placed in the largest cold storage warehouse in Winnipeg, and has been there until yesterday. You will observe that it has verdure enough to herald the spring and is worth about 6c. per lb. to make soap. If it had been a carload of 20,000 lbs. the loss would have been about \$2,000. This shows at least that an expensive cold storage warehouse and the high respectability of a commission house are not preventatives.

Mould is a minute plant of the fungus species. Other members of the vegetable kingdom obtain their nourishment from the earth, but this fungus gets its living from other organic compounds—vegetable or animal matter. There are over 30,000 kinds of fungi, all, or nearly all of them, can live in the dark and our particular friend here thrives best in the dark. This puts us at a disadvantage in suppressing him, for to get the temperature of our cold rooms down to a reasonable point the light is excluded, as a rule. Light

by means of small double windows is good. Mould is propagated by spores, that is, it is not a plant that flowers and seeds, but, at maturity, cells are detached which start house-keeping on their own account whenever conditions are favorable. This accounts for its rapid spread. It cannot grow where there are no spores, but the atmosphere is always full of them. The spores cannot develop, however, where the conditions are unfavorable. Favorable conditions, as already said, are darkness, a uniform dampness and suitable soil such as damp or decaying wood and damp or decaying organic matter. Then, if the stagnant condition of the air is not disturbed by any attempts at ventilation, so much the better for the development of mould.

We can now sum up the causes. As a rule our cold store rooms are not lined throughout with Dutch tiles, as the first-class creameries of Europe. They are not built of good stone and mortar paved with flag stones and regularly washed with quick-lime like the generality of cold store rooms in the old country. On the contrary, they are built of the commonest and softest kind of cheap lumber; the walls packed with soft wood saw-dust, and always damp from the constant proximity of melting ice. These conditions present a perfect breeding ground and it is more difficult to eradicate the mould from such a creamery than it is to clear an old frame house of bed bugs. Hence the likelihood of the pest getting worse every year.

The whole creamery and utensils should be cleansed and disinfected. First, scrub every part and thing with boiling water and soap. Second, wash with boiling water containing one per cent. of crude carbolic acid. Third, spray or wash with a five per cent. solution of formalin and finally wash with limewash made from quick lime. After spraying with formalin, shut the room up close a couple of days so that the vapor may penetrate every part. Formalin is powerfully rough on germs, but not poisonous. It will not injure the hands, clothes or wood. It will make the eyes smart, but not to hurt, and



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If this old proverb is a true one, we ought to have a bonanza year in 1899. It is just about a year since we accepted the agency for "Mikado Cream Separators" for Manitoba, North-West Territories and British Columbia, and in that year we have sold 300, each one of which, as far as we can learn, giving perfect satisfaction. This is the best advertisement we can have.

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must not be applied to iron, as it attacks the metal and will harden rubber goods. Moreover, Mr. Bedford will tell you it is a perfect cure for smut in oats, and is almost odorless. A quantity of the solution should be kept in the rooms in a shallow vessel with a piece of cloth 6x12, having one end in the liquid and the other end hanging down over the outside of the vessel. This will syphon up the solution like a wick and cause a steady evaporation of the gas in the atmosphere of the room to the entire undoing of the mould. This treatment should be extended to cheese rooms unless you want to turn out imitation old Stilton.

The parchment paper now so freely used, being vegetable, favors mould rather than otherwise. Therefore soak your parchment paper in brine to which has been added formalin in the proportion of 1/2-oz. to a quart of brine.

Lastly, butter not going into immediate consumption should be salted about as heavily as the taste of your customer will stand, and should contain as low a percentage of moisture as ever possible. The good old practice of covering the packages with salt paste has been largely abandoned to our cost. Until our cold storage facilities in this country are more perfect, I would cover every package with salt paste and keep it pasty by additions of brine at regular intervals up to time of shipment or final disposal. So concludes this mouldy paper.

The discussion following Mr. Scott's paper was one of the liveliest of the whole conference and the subject is so important that it will bear and require still further investigation. Mr. C. C. Macdonald spoke at some length, contending that the refrigerator system between here and the Coast, coupled with the handling at the point of delivery and the extremely moist climate of B.C., are all aggravating causes. Still it must be admitted that there is mould here in Manitoba and he did not see how ice storage could help producing and perpetuating it. He had looked into the working of chemical cold storage when in Chicago, and thought we would be driven sooner or later to try the same thing here. Even if it cost \$500 to buy the machine and as much more to install it, he thought it would pay in the end. He did not think butter would be free from danger till we adopt the new plan.

J. A. Kinsella, Dairy Superintendent for Assiniboia and Saskatchewan, contended that ice refrigeration was not so much to blame for mould appearing as some would like to make out.

Mr. C. Marker, Superintendent for Alberta, also defended the ice refrigerator system. He had found lime a most valuable aid in his operations. He used it in cleaning the churns and other utensils, and for washing the walls, which not only killed the fungus but hardened the wood, making it impervious to fungus spores. What he used was fresh lime water, made by putting water on slaked lime in a barrel buried in the ground. He used it as a wash. If the drums in the refrigerator had proper attention inside a properly constructed creamery, they would be covered with a thick coat of dry frost and the butter would keep for months without any sign of mould. Where mould shows he suspects that the construction or the refrigerator is imperfect—most likely both are at fault.

George Harcourt, of The Nor'-West Farmer, said that he had been gathering information on this question of mould, and from the information collected and from his own experience, he said that the conditions suitable for the growth of mould were continuous dampness, the presence of a suitable food supply and the proper temperature. The aggravating causes in a creamery he summed up as

follows:—1. Damp, poorly ventilated cold storage rooms. 2. Damp parchment paper caused by keeping it in a damp place. 3. Imperfectly seasoned timber. If lumber has soured while seasoning mould will develop very readily, especially if such lumber is used in the manufacture of boxes or tubs, or for the lining of a cold storage room. All these conditions are under the butter maker's control, except the last. He did not think that the last cause was at the root of last year's trouble so far as the boxes were concerned, for boxes out of the same car sent to different creameries gave different results; for the butter in these boxes from one creamery showed no signs of mould all season, while from another creamery not far from the first there was considerable mould. This would go to show that the cause was in the creamery. Sometimes the paraffin coating inside the boxes was not perfect and the butter became inoculated from contact with the wood if it is not properly seasoned. If tubs were subjected to a high temperature by steaming them, the spores might be killed, then soak them 24 hours in strong brine. Tub, boxes and paper should be kept in a dry place.

If the Northwest creameries can keep their storage chambers right and dry as the representatives from the west claim they have done, then the insulation and ventilation of the Manitoba creameries is at fault and these points should be looked after sharply and quickly by creamery directors.

J. A. Kinsella then gave the following paper:—

IS OUR DAIRY INDUSTRY IN THE WEST ON THE ROAD TO SUCCESS?

This is the all-important question which should interest the dairymen of Manitoba—Are we increasing our output of butter and cheese from year to year? Are we improving the quality of our butter and cheese, each year? Now it appears to me that there is room for vast improvement in our butter and cheese industry throughout the whole of the west. In answer to this you may say—we are holding our own—but what I would like to say to you is this—in consideration of the strenuous efforts put forth, and the keen competition offered by the people of other countries, almost on every side of us, can we as dairymen afford to stand still? Can we afford to allow the dairy industry to go back?

Some of the reasons why, I think, the dairymen are standing in their own light, and why the creameries and cheese factories are not patronized better. First of all comes the lack of confidence on the part of the farmer in the proprietor and the management of the creamery and cheese factory; secondly, the lack of co-operation among the farmers and joint stock companies. How are we to overcome these difficulties? Not without the joint efforts of the farmers, combined with good management of the creamery and cheese factory can we make a success of dairying.

Then again, comes the lack of confidence on the part of the patrons, in the accuracy of the Babcock and oil test methods of distributing the butter fat among farmers. How are farmers to be convinced of its accuracy. We know from actual tests and experiments made by expert chemists all over the world that the test is accurate, and the best known means we have of distributing the butter fat amongst patrons fairly and accurately. I know of no better way for the farmer who thinks he is not being treated fairly at the creamery or cheese factory, than to purchase a small Babcock tester, and learn to operate it properly, and thus convince himself. I would strongly advise

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every dairyman to have his herd tested. The individual testing of his cows will convince him of the accuracy of the test. I have heard farmers say—"I could not get rid of the old yellow cow. She is the best cow in my herd," but after having an individual test of the whole herd made, he then finds the old yellow cow is hardly paying for her keep, while the cow that was looked upon as of little consequence, was the cow that was turning the profit at the end of the year. This is why I would urge upon the farmers to have their herds tested. I was pleased to see the farmers of Manitoba bringing their cows in competition at the public milk test made at the Winnipeg Exhibition last season. I contend that a cow should be judged by a milk test. Breed and feed from a business point of view, and breed and feed the cow that turns over the largest possible profit for the whole year.

I think that if the farmer, who is carrying on private dairying, could be convinced of the losses he sustains by following the old gravitation methods of creaming the milk, it would be a grand thing for the creamery. A test was carried on at the Kansas Experimental Station with a herd of five cows, for a length of time. The skimmed milk was found to contain 3.10 to 7.10 of one per cent. of fat, and the buttermilk over one per cent. of fat. The test showed a loss of 160 lbs. of butter on the herd, for the year, or 32 lbs. per cow. A farmer with 25 cows, selling butter at 20c. per lb., would save at this rate \$160 in a years by using a farm separator.

We now come to the question of cold storage for creameries. Is our system of ice refrigeration by means of galvanized iron ice cylinders in perfectly insulated compartments in creameries in the Northwest Territories a failure? Is the Hon. Sidney Fisher and Professor Robertson's system, or chain of cold storage established by the Dominion Government from the Pacific Coast to Great Britain a failure? I would infer from two articles which appeared in *The Nor'-West Farmer* of a recent date, that ice refrigeration for creameries is not efficient, and does not do the work, and that there is always a dampness in the rooms, which causes the butter to mould. Now this may be the case in some of the creameries in Manitoba, but it is not the case in a properly constructed refrigerator on the ice cylinder system. As an example, in 1898, Professor Robertson shipped to Great Britain as a trial shipment, from eight of the creameries in the Northwest Territories, about 100,000 pounds of butter made from gathered cream. This butter, or portions of it, was held in our refrigerators as long as three months before the shipment was made, and on landing in Great Britain was found to be well kept. Although landing there on one of the most stagnant and glutted markets Great Britain has seen in the butter trade for a number of years, it sold for within five to seven shillings below finest Danish butter.

Five years ago Canadian creamery butter sold for 20 shillings below Danish butter and 10 shillings below Australian. Now it is almost equal to the finest Danish, and sells for 10 to 12 shillings more than Australian butter. This grand improvement is largely due to the cold storage facilities provided for transportation, as well as our ice system of refrigeration in the creameries throughout Canada.

We are not only improving the quality of our butter, but increasing our export trade with Britain each year. Last season we sent to Great Britain about \$4,000,000 worth of butter, but this is only a small amount in comparison with a little country like Denmark, which exports to Britain \$35,000,000 worth of butter annually.

Yet we are increasing our export trade each year, and we are now sending three times as much butter to Britain as we did a very few years ago.

I am not opposed to chemical refrigeration if it is within the reach of the dairymen of any Province. I think it is a grand system for a country like New Zealand, where they have no natural ice, and where they turn out as much as three tons of butter per day at large central creameries. But it does seem to me that it would be an expensive scheme—almost an unnecessary one in Manitoba and the Northwest Territories—where we have such a grand crop of ice for about six months in the year, and where the creameries are only turning out from 20,000 to 50,000 pounds of butter in a season. One of the objections offered against ice refrigeration is that it gives the butter maker too much work. Now it appears to me that this cannot apply to the butter makers of Manitoba and the Northwest Territories, for I think the majority of them have not sufficient work to keep them at home every day in the week.

I do not think it would be out of place to touch on the subject of curing cheese in Manitoba and the importance of improving the curing rooms so that the temperature can be kept under complete control, also the great importance of keeping the cheese at the factory until properly cured, before shipping to any market. Why I mention this matter is, I have been asked by Vancouver and Kootenay dealers, why it was that they got such poor tough cheese from Manitoba and the Territories. This trouble, I think, is largely due to the cheese being shipped from the factories green, or rather, before they even start to cure. This is a great mistake. We will never gain a reputation for our cheese unless the cheese is properly made and properly cured. In order to cure a cheese properly, it is necessary to have a well constructed curing room, where the temperature can be controlled. The best results are obtained by curing cheese at an even temperature of 60 to 65 degrees. Cheese should be held at the curing rooms at the above temperature from four to six weeks.

The best manner of controlling the tem-

perature in curing rooms where the weather is very hot in summer is by means of a sub earth duct, which can be put in at a small cost. The duct should be 150 to 175 ft. long. The trench should be 7 to 10 ft. deep, with a fall to one end of about 10 inches for drainage. A good plan is to place in the trench five or six rows of 8 or 10 inch common drain tile, being particular to break joints. On top of the tile should be placed one foot of good straw, the dirt is then filled in. At each end of the duct place a curb four or five feet square. The curb should fit over the ends of the tile in such a manner as to keep the dirt from entering the tile. At the inlet of the duct there should be a galvanized iron pipe about 30 ft. high by 18 inches in diameter and on the top of the pipe a hood which should turn towards the wind. A constant stream of air enters this pipe, passes through the tile and becomes cool before reaching the curing room, where the inflow of air is regulated by slides. The warm air is taken from the room by a ventilating shaft, which passes through the roof and terminates in a galvanized iron pipe 12 to 15 ft. long by 12 inches in diameter, with a cap on top to keep out the rain.

The recommendation passed at the morning session with reference to changing the place of the general meeting every year was taken up and warmly debated. It was finally decided to hold the convention next year in Winnipeg, but that the directors, if possible, hold local conventions throughout the Province during the year. It was thought by some that the market bulletins sent out to creamery men should be done away with on account of their cost and the evident fact that quite a number of the creamery men did not seem to appreciate them. It was finally left for the directors to deal with as they saw best.

THURSDAY EVENING JOINT MEETING.

M. W. Champion in the chair. The first business taken up was a resolution sent up by the Veterinary Association embodying the views of the profession regarding the question of tuberculosis and the means



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to be used for its suppression. It read as follows:—"Whereas, it has now been fully recognized by the highest medical and veterinary authorities that there is a great danger to human and particularly infant life, from the use of the meat and milk of tuberculous cattle, the disease being identical in the human and bovine species, and whereas, stock owners generally are alive to the fact that the presence of tuberculous animals in their herds is a source of serious financial loss and detrimental to their interests generally; and whereas, the general consensus of opinion, after full trial and experiment, is in favor of the reliability and efficacy of the tuberculin test as a diagnostic agent; therefore the members of the Veterinary Association of Manitoba feel it their duty to urge upon the Dominion and Local governments, municipal councils, the public generally and stock owners in particular, the advisability of, in their several capacities, adopting at the earliest possible date, systematic measures for the suppression and eradication of the disease among cattle. Such measures comprise: 1, an intelligent use of the tuberculin test by properly qualified and responsible men; 2, the destruction and proper disposal of the carcasses of all animals showing physical signs of tuberculosis; 3, the isolation of all animals reacting to the tuberculin test, with the view to their subsequent slaughter and the utilization of such carcasses, as after inspection, may be deemed fit for human food, and as a meantime measure, the careful pasteurization of the milk from cows so affected, whether intended for human food or for the lower animals; 4, the careful disinfection of premises in which affected animals have been kept; 5, careful attention to light, ventilation, drainage and general sanitation of stables."

Dr. Rutherford, M.P., spoke to the resolution and explained the nature of the tuberculin test. Some people were kind enough to say that this suggestion as to the testing and isolation of cattle reacting was in the main a scheme to keep veterinarians in work, but he saw it in a different light. One affected animal in a breeding herd might taint all the rest, but by detecting that one the rest might go on and breed some healthy cattle. This was no new thing with him. When in the Local House he had refused to be badgered by counsel in the disputes between the Winnipeg Health Authorities and the dairymen, but had privately recommended that the city should buy all the cows that reacted at two-thirds of their value and after that have all new ones brought in tested as a preliminary to using their milk. By drying up such cows as did not show an advanced stage of disease, fattening and killing them under proper inspection, every one fit for use as beef could be used with confidence and the rejected ones destroyed. Just now if cows were rejected by the city veterinarian there is nothing to prevent them being taken back to the country, and mixed with other cattle, so making the remedy as dangerous as the disease. There is danger, and a lot of it, and the more promptly and honestly we deal with it the better will it be for both the city and the country at large in the long run. Large dairies in cities are the worst centres of this disease, and the only way to check it is to hem it in and deal vigorously with it, as is proposed by this resolution. The country at large is pretty safe from this disease, but it is not one to be trifled with. At a later stage of the discussion he pointed out that over ten per cent. of the whole deaths in civilized communities were due to consumption, and infant mortality was terribly aggravated by the use of tuberculous milk, though such deaths were veiled under other names.

Dr. Little, Dominion V.S., admitted that

the proportion of reacting cases inside the Winnipeg dairy district that had come under his inspection was very serious, and the matter could not rest where it is now.

At a later stage of the meeting, Mr. D. Munroe said that at a similar meeting two years ago he had rather boasted of his unbelief in this tuberculosis scare, but had since got effectually woke up. Just at that time he had bought several cows from a healthy country herd of 85 head, young and old, all very healthy, as he thought. But when he tested, several of these reacted and he had fed the milk from two of them to his calves, in a clean stable. In a few months three of the calves so fed had died of tuberculosis, and what would kill calves was not a proper food for delicate infants. He wanted to say that testing dairy cows is essential to the health of the community.

Andrew Graham, Pomeroy, could not see the force of all this. If it were true, a goodly proportion of the people of Winnipeg ought to be now under ground.

S. J. Thompson, Provincial Veterinarian, could confirm all that had been said by Dr. Rutherford on the health question and his experience was that to hold on to tuberculous cattle was simply ruinous. It did not pay financially to keep tuberculous animals around. In one case of a pure bred Shorthorn herd of 14 head that came under his notice, only two sound ones had passed through the test. By an earlier test there might have been only two found amiss and all the rest saved.

The resolution from the Veterinary Association was carried without opposition.

C. C. Macdonald, Dairy Superintendent, was booked for an address on "Frauds in food," but owing to other engagements, had not been able to go into the question as he would have liked to do. As an example of the frauds imposed on us with our own consent and approval, he instanced the coloring of butter and cheese, samples of which coloring he passed round in small bottles. He did not think this very nice to taste or smell, yet the man who sold his winter butter or cheese as it came from the cow would find it very difficult to find a buyer. We must have our cream the color of cream and won't buy from the man who offers it in any other way. Next year he might be able to go more fully into the subject.

THE BABCOCK TEST.

C. Marker, superintendent of dairying in Alberta, gave an address on the question, How can we convince Patrons of the accuracy of the Babcock Test? The test, he said, was endorsed by all the leading chemists of the world, of Europe and of America, including the United States and Canada. He suggested that the patrons be induced to be present and see the milk tested at the creamery. He next gave a few reasons for low tests. Certain breeds of cattle, he said, always give thin milk, no matter how well fed. Another cause was the individuality of the milker, slow milkers obtaining less satisfactory results. The condition of the weather also affected the percentage of fat in the milk.

The Hon. Thos. Greenway spoke to the topic allotted to him by the committee, "Stock Raising Essential to Permanent Successful Wheat Growing." He began by saying that he would not have missed the meeting for a great deal. Subjects of a good deal of interest had been discussed, especially the last one; and suggestions had been made that would bring about discussions in other places. He would not like this interesting gathering to pass without having an opportunity of saying a word or two. If there was anything he desired above another it was to do something or suggest something that would be of interest to the agriculturists of Manitoba. This arose from not entirely

unselfish motives. To those who asked, "What about farming in Manitoba?" his best answer was that everything he had was invested in farming in Manitoba. A few years ago he had been honored with a request to open the Winnipeg Industrial Exhibition, and he had remarked on that occasion that before he came to Manitoba he had been engaged in different pursuits, mercantile and others, but after coming to Manitoba and appreciating its resources, he had made up his mind that the height of his ambition was to have a good farm, well stocked, and with good buildings, and to have it free from debt. There were some who knew how far he had succeeded. Such had been his ambition, and, he believed, one sin he had to answer for to-day was being too much of a farmer.

Speaking of the Winnipeg Industrial, he said he had not this year the same prospects he formerly had as an individual competitor, but he could still say with all confidence that it is one of the best agencies for showing the capabilities of the country. He noticed that friends in the east were also manifesting appreciation; and that the handsome sum of \$800 had been contributed for prizes. This was as it should be, though prompted perhaps by not entirely unselfish considerations. They recognized that their great market was here for the stock they were going to produce down there; and they were trying to induce the people of Manitoba, as in the past, to come down and purchase thoroughbred stock. The Winnipeg Industrial had been a success, and he was glad of it. He had noticed a new, very



If life is worth having it is worth taking care of. Recklessness does not pay, either in our work or our pleasure. When people read of a young man who has been killed while performing some reckless feat on a toboggan or at some other hazardous sport, their sympathy is mixed with surprise that any human being should thus carelessly risk life.

There are thousands of men who are recklessly risking their lives while they go about their common every-day avocations. They over-work, they do not take sufficient time from business or labor to eat or sleep or rest, or to care for their health. Outraged nature throws out danger signals, to which they pay no heed. They suffer from bilious or nervous disorders, from sick headache, giddiness, drowsiness, cold chills, flushings of heat, shortness of breath, blotches on the skin, loss of appetite, uncomfortable sensations in the stomach after meals, loss of sleep, lassitude and trembling sensations. These are the advance symptoms of serious and fatal maladies.

All disorders of this nature are cured by Dr. Pierce's Golden Medical Discovery. It restores the lost appetite, gives sound and refreshing sleep, makes the digestion perfect, the liver active. It purifies the blood and makes it rich with the life-giving elements of the food. It is the great blood-maker and flesh-builder. It makes the body active and the brain keen. It is the best of nerve tonics. Thousands have testified to its merits. No honest dealer will urge upon you a substitute for the little extra profit it may afford.

The man or woman who neglects constipation is gathering in the system a store of disorders that will culminate in some serious and possibly fatal malady. Dr. Pierce's Pleasant Pellets are a safe, sure, speedy and permanent cure for constipation. One little "Pellet" is a gentle laxative, and two a mild cathartic.

attractive and suggestive calendar, having a picture of an old farmer, and knowing something of the horny handed son of toil who has posed for it, he considered it perhaps somewhat overdrawn, and perhaps not a true representation; yet it was a good hanger, and a good advertisement for the Winnipeg Industrial. At the left hand side, near the bottom, he read, "\$15,000 for prizes, open to the world for competition." That was noble for the people who had organized such an exhibition; but the other day he had noticed that some evil-disposed person had written under that magnificent sentiment, "except what may come from a certain farmer in our province." That was a little thing, but it did a great injustice to the directors of the Winnipeg Industrial. One thing in the calendar had struck him exceedingly, namely, that showing what the country can produce. He believed that no farmers in any country could show for the same number such results.

ABOUT STOCK RAISING.

Some good friend had put him upon this programme to speak upon a certain subject, "Stock Raising Essential to Permanent Successful Wheat Growing." If he had concocted he would have worded it, "Stock Raising Essential to Permanent Successful Farming." He knew that with many wheat growing and farming were synonymous, but he knew at the same time that they were two distinct things. When he saw that dream upon the advertisement of the Winnipeg Industrial Exhibition that 35,000 farmers had produced \$27,500,000 worth of products in 1898, he said to himself, if they had been farming what would they have produced? because growing stock does not decrease the possibilities of growing wheat, but increases them. Last year he had between 500 and 600 acres in crop, he had some stock there, and in a few weeks there would not be a forkful of all the straw produced, as it would have been used; and the manure would be placed upon the land next season. What a terrible waste there must be in the country in this Province of Manitoba, when such an amount of fodder is wasted as is the case with nearly all the big farms! Immediately after the threshing is done and the machine moved away, the torch is put to the straw. He was one of those who believed that as much could be got from the straw here as in the eastern provinces. He remembered one farmer who had a good stack of straw and went out among his neighbors and purchased stock for the purpose of eating down that straw. The straw here is as good for fodder as that in Ontario, yet the majority is burned up. What is wanted is farming in all its branches, raising all kinds of stock.

THE HOG QUESTION.

Is it not a shame that one could not go to the any part of the Province and buy a carload of live hogs? He read that a gentleman near him complained of having damaged wheat, for which he had no use; and again he saw that one city butcher had imported from the far east 900 hogs and 600 sheep for the use of the people of this city. If farmers in this Province would undertake "to farm," to carry on farming in all its branches, they would have something to occupy their time during the winter; they would be able to secure labor at better rates than for the summer, and to keep their land in good condition for producing crops. Where wheat is raised continuously, as in Iowa, Illinois and Wisconsin, the lands are running out. He did not think farmers realized the possibilities in store for them if they used the advantages of their position here. The great Kootenay country, one of the richest in the world, was opening up, and ought to

be supplied by the people of Manitoba with their products. A million pounds of hog products were brought from Ontario and across the line, paying the duty; also cheese by the carload and butter by numbers of carloads. He had taken an interest in dairying as one of the best interests for this country, and one for which the country is particularly adapted.

THE DAIRY SCHOOL.

The government had established a dairy school, in which they hoped to educate young people; had provided a building, with all modern appliances; had placed a good man in charge, and had secured everything they thought they ought to have to educate the people up to the best methods; yet they could barely get enough pupils to keep the school open. These are things which ought to be considered. But when there was a wheat fever, everybody rushed in. The country is adapted to wheat raising, and also to stock growing; but to get the best results we must have different kinds of stock, and pursue stock raising in connection with grain raising. He did not propose to give an address, but only to make a few remarks. He had not felt well all the week, though he did not look like a sick man. This showed that we can not always trust to appearances.

He was very much interested in everything that had for its object the promotion of agriculture; and he believed that the Province of Manitoba was one of the very best for this pursuit. Far along time it must be almost entirely confined to this. Let us undertake to supply what the people nearest to us needs. We complain sometimes about transportation; but let us try to put what we have into a form to stand transportation. He was glad indeed, to have had the opportunity of coming to the meeting and saying a few words in the interests of the cause he had so much at heart. He thought he could satisfy any in regard to that if he would come down and pay him a visit some day, he could give evidence as to what he thought about the future of the Province as an agricultural country. Because he believed and knew that it was a good farming country, he had chosen to take farming as his profession; and there was no place where he could feel happier and more at home than in fooling around among his stock. He did not think there was any tuberculosis there. He had recently sold four head to Americans, and they had to be tested and a chart supplied before they could be taken across the line. The wise people in that country thought there was something in the tuberculin test. He had never seen any tuberculosis about

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Breeders of pure Stock in the following lines of Poultry:

Barred and Buff P. Rocks. Golden and Silver Spangled Hamburgs. Black Langshans. Eggs, \$2 for 13; \$3.50 for 26.

Stock for Sale. Will help customers to get any other Stock required.

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SINGLE COMB WHITE LEGHORNS,

Cockerels for sale from \$2 to \$4 each.

EGGS for Hatching, from pen No. 1 . . . \$2 for 13
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For delivery after April 1st.

W. A. Pettit, Boyd Ave., Winnipeg.

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POULTRY SUPPLIES:

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A few fine PEKIN DUCKS for sale. Write for particulars. R. DOLBEAR, 1238 Main St., Winnipeg.

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LOUISE BRIDGE P.O., WINNIPEG, MAN.

50 pairs of young Pekin Ducks from imported and prize-winning stock, at from \$3.00 to \$4.00 per pair. 100 pairs of young Bronze Turkeys, after Sept. 15, from \$4.00 to \$6.00 per pair. From prize stock. I also have young stock of different breeds for sale. Write.

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These machines have copper tanks, moisture pans, thermometers, egg testers, egg turners, regulators and lamps. Everything is complete, and every machine goes out with a guarantee that it will do as represented or money will be refunded.

Address—CHAS. MIDWINTER,
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For want of room I have decided to sell all my LIGHT BRAHMAS, prize winners included. Young and old birds, single pairs or trios for sale from \$2.00 upwards. Eggs in season. My stock have won prizes at the leading shows in Canada.

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J. DENNER & SON, 295 Fountain St., Winnipeg. Breeders of high-class Minorcas, will this season breed from two pens.

No. 1 Pen—headed by brother to the winner of New York Show, 1897, mated to pullets imported direct from Pitts, of England, winner at the Crystal Palace.

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SILVER LACED WYANDOTTES & B. R. GAME BANTAMS.

Choice Breeders for sale at \$1.50 and upwards Pairs, trios and pens mated not akin. Satisfaction guaranteed. If you want the best at fair prices, write me. Buy a cockerel and improve your stock, I will give you good value. Eggs in season.

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PLYMOUTH ROCKS.

Winning at last Exhibition of Manitoba Poultry Association four firsts and two second prizes.

If you want good birds, write for prices.

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696 McMicken St., Winnipeg.

COCKERELS ! COCKERELS ! !

BUFF COCHINS.

Being overstocked I am prepared to sacrifice fifty splendid birds, including first prize winners at Winnipeg and Brandon Fairs, '98. Farmers and others wishing to increase size of next year's chickens cannot afford to miss this chance.

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90 Varieties Choice Poultry. Eggs, Pigeons, German Hares. Described in a natural colored 60 page book, 10c. J. A. BERGEY, Telford, Pa., U.S.A.

When writing, mention The Farmer.

his place, and did not think, if a man were ordered out to make a test, that he would find much in his herd of 150 head. He thanked the directors exceedingly for this opportunity of making a few remarks; he was pleased to know that they had had such a successful gathering; and he would be glad if he had said anything that could help to the conclusion that farming is a little different from wheat growing; that wheat growing is not farming in its entirety; that there are greater things than wheat growing.

At the close of the proceedings E. A. Struthers, seconded by D. Munroe, moved the thanks of the Associations to the City Council for the use of the City Hall, to the press for the liberal notices given and the reports furnished of all their meetings, to Professor Craig, of Iowa, Messrs. Peterson, Mackay, Marker, and Kinsella, as representing the Territories, for their presence and contributions to the proceedings; to Dr. Rutherford, M.P., and S. A. Bedford; also to the Hon. Thos. Greenway for his address and for the kindly assistance rendered by him and the members of his government to the dairy, cattle, sheep and hog industries of the Province.

On motion of C. C. Macdonald, seconded by D. Munroe, the following resolution was passed unanimously: Whereas the merchants of Manitoba have placed the reputation of creamery butter of this Province in danger by using the square or Australian package for packing dairy and inferior butter and thereby misleading the purchaser of creamery butter, be it resolved that this Association recommend to the Dominion government the advisability of passing a stringent law, naming the square or Australian package as a creamery package only, and not to be used in any case except for packing creamery butter. The word creamery to mean any institution where two or more patrons contribute the cream or milk from two or more different herds of cows.

The chairman closed the meeting with a few words of congratulation on the most successful and interesting gathering yet held, and the audience joined in singing "God Save the Queen."

FRIDAY AFTERNOON.

WESTERN HORTICULTURAL ASSOCIATION

The annual meeting of this association was held in the City Hall, Winnipeg, on February 10th, Rev. Professor Baird presiding. The treasurer's report showed that there were 60 members and that the government had given a grant of \$100, but the printing of the annual bulletin and smaller incidental expenses had left them with a balance on the wrong side. It was decided to offer Green's Amateur Fruitgrower as a premium to all subscribers this year. The officers elected for the coming year are:—President, Professor Baird; local Vice-Presidents, S. A. Bedford, Brandon; John Caldwell, Virden; A. McKay, Indian Head; St. Clare McGregor, Mekiwin; Thomas Frankland, Stonewall, and A. P. Stevenson, Nelson; Secretary, A. F. Angus, Winnipeg; Treasurer, W. G. Scott, Winnipeg; Councillors, Dr. Bryce, G. H. Greig, H. C. Whellams, Auditor, D. Horne.

The recent Dominion legislation prohibiting the introduction of woody plants of all sorts from the United States, as a safeguard from the San Jose scale, was brought under review and unanimously condemned as being quite uncalled for so far as Manitoba is concerned. We run no possible risk of loss from that cause and by the operation of the new ordinance we are prohibited from buying in the States to the south of us nursery stock which all experience shows to be much better and more reliable in every way

than anything we can buy in the east. Our climate is akin to that of Minnesota in its effect on fruit growing and all our best imported sorts can be traced to the southern nurseries. The Ontario nurseries that handle the stock we want are all too far south, and their plants too tender. That and the difficulty of transportation from the east as compared with Minnesota, combine to make these restrictions very injurious and obstructive to the best interests of western horticulturists. One example may be quoted. The American Cottonwood is known to be hardy and one of the very best trees possible for planting in shelter belts. The same variety brought in from the east is practically worthless, and yet this specimen of paternal legislation compels us to waste our time and money on dozens of eastern varieties of shrubs and trees unsuitable to our climate, or go without. There was not one of the group of first-rate horticulturists assembled that did not strongly support the position taken by men of ripe experience like Stevenson, Alston, Hay, and Fonseca on this point, and it is to be hoped the restriction so far as it refers to Manitoba will be promptly repealed.

Mr. P. Middleton, Brandon, gave an interesting report of the work done at Brandon last summer to start a summer show, which by the zeal of one or two good men and the hearty support of the whole community had been a financial success and a powerful incentive to home gardening in that city. The last show of the same kind held at Winnipeg proved a financial failure, and though it was thought very desirable by the horticulturists present that a show should be held at Winnipeg in the end of August, no resolution was come to on the point. Brandon expects to do still better this year than last.

Papers were read by Mr. Bedford on Hedges, and W. G. Fonseca on Apple-growing in Winnipeg. Mr. Hay, Portage la Prairie, spoke on the same subject, and an interesting discussion followed, both papers. For tall hedges the American White Willow is one of the best sorts, as it does not break down with a load of melting snow in spring as is the case with the maples. But for this cottonwood and hard maple would be preferable, as they grow more readily. For smaller hedges white spruce, caragana or Siberian pea, lilac and the native rose are desirable sorts. For smaller divisions perhaps the prettiest is the Asiatic maple (acer ginnala), the weeping caragana; lonicera, snowberry, and artemisia are also very good. This last sort Mr. McKay uses very freely. Small plants well trimmed before planting and kept well dressed up afterwards, are best. Frequent surface cultivation, especially after rains, is very important to the health and vigor of all hedges. In the discussion that followed the following points were emphasized:—Don't clip caragana too often, box elder not after July. In Mr. McKay's experience, too high hedges are less protection to tender plants than if they were lower. Where wind gets freer access frost gets less chance to take hold. Propagation by layers is sometimes quicker than using seed.

W. G. Fonseca's paper went to show that Trancedent crab is the best variety yet seen round Winnipeg. His trees came from Minnesota and there are a good few of the same in and near the city. Siberian crab is useful and hardy. Mr. Lyall, at Portage la Prairie, had last year a small tree that bore 47 fine apples of Duchess of Oldenburg. A. P. Stevenson had last fall several good standard apples and is quite successful with crabs. Nelson Bedford, at Morden, grew 70 baskets of crabs last fall and has always had good success. On the question of shelter, Mr. Waugh showed that Mr. Parkinson, Portage la

Prairie, preferred growing in the open, as that prevented blossom coming too early. Mr. Fonseca's trees are grown with several stems and are thus less liable to sunscald. Mr. Stevenson grows on one stem, that he may protect the stems from disease and rabbits, by means of an upright box fitted round the tree every winter and filled with earth. Crabs on the lower bench of the Red River Valley are quite reliable, but further west are scarcely worth trying. In the Territories no apple of any kind has yet fruited, and the best efforts on the Indian Head farm have proved a dead failure. Even at Brandon only the Siberian crab gives any promise.

A paper by Wynian Elliott, Minneapolis, recounted the early struggles and disappointments of horticultural enthusiasts in Minnesota, who vainly tried to acclimatize the apples of the eastern states. Now they have 200 varieties and Southern Minnesota abounds in apple orchards, the Wealthy and Duchess being most successful. Mr. Elliott expects that by hanging on to the work we in Manitoba may ultimately achieve success. Mr. Stevenson pointed out that a five years' test is short enough to get any reliable data on the score of hardiness.

FRIDAY EVENING.

At the evening session, Thos. Frankland, Stonewall, read a paper on plums. He regards De Sota and another half-dozen named sorts of Minnesota and Wisconsin, origin, as reliable for the best situations, but of these Mr. Stevenson finds Cheney quite the best, with the Aitkin, as a recent acquisition, full of promise. Good varieties grafted on native seedlings, or suckers from approved sorts, are the proper means of propagation. When you sow the pits from the best sorts you don't know what you are to get, and it will take about five years to find out whether there is any one of those seedlings worth growing except as stocks on which to graft the right sorts. Plums need no pruning to speak of, and there are approved remedies for their diseases. The prospect for good plums on land less than 1000 feet above sea level is very bright. For cooking especially, the flavor of a native plum of the right sort far excels that of the big insipid B.C. sorts.

Papers were also read by A. P. Stevenson on lessons from the past year, by A. McKay on Fruit Growing in the Territories, and by J. J. Gunn, Gonor, on Bee-keeping, but our notice of these must be deferred to a later issue. The free discussion on all of these papers was one of the strong features of this gathering. All who took part were familiar with the topics dealt with, which made their opinions so much the more valuable.

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Anti-Clog Weeder and Cultivator

This Implement is used largely on the American side on all kinds of crops after sowing to kill the small weeds as they start, and preserve moisture. A number were imported into Manitoba last year, and used very successfully on the grain and root crops, increasing the yield considerably. Used two last season, and was highly pleased with their work. Send to me for circulars with cuts, descriptions and price. ORDER EARLY.

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THE NOR'-WEST FARMER

ISSUED TWICE A MONTH.
ESTABLISHED 1882.

The only Agricultural Paper printed in Canada between Lake Superior and the Pacific Coast, and issued on the 5th and 20th of each month.

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PROPRIETORS.

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WINNIPEG, MANITOBA.

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Copy for changes in advertisements should be sent in not later than the 27th and 14th of the month to ensure classified location in the next issue. Copy for new advertisements should reach the office by the 30th and 17th of each month.

TO OUR SUBSCRIBERS.

It is the intention of the publishers of this paper to admit into their columns none but reliable advertisers, and we believe that all the advertisements in this paper are from such parties. If subscribers find any of them to be otherwise, we will esteem it a favour if they will advise us, and we will at any time give our personal attention to any complaints which we receive. Always mention this paper when answering advertisements, as advertisers often address different things in several papers.

LETTERS.

Either on business or editorial matters, should be addressed simply "THE NOR'-WEST FARMER, P. O. Box 1310, Winnipeg," and not to any individual.

Look at Your Subscription Label.

When you pay your subscription, watch the name label on the next two issues which you receive. On the first issue following payment, it might not give the correct date—the type-setting machine may make an error and the proof not be corrected before mailing day. But if the date is not correct on the second issue please notify us by postal card.

Look at the date label now. Are you in arrears? Are you "paid up" to the end of 1899? The label will tell you. If in arrears, please renew promptly.

WINNIPEG, FEBRUARY 20, 1899.

TO NEW SUBSCRIBERS.

We have received so many new subscribers during the last month that we are unable to send them back numbers of The Farmer. We printed what we thought would be sufficient to meet all demands and give every person sending in his subscription before the end of February, a copy of The Farmer since the first of the year, but we have fallen short of the mark by a large number, and January issues are now exhausted. We will, however, give each subscriber a full year from the date of the first issue sent.

STOCK IN CARS FOR THE TERRITORIES.

The directors of the live stock breeders held a meeting at the close of the conventions at which it was decided to make arrangements for availing themselves of the provisions made by the government of the Northwest Territories for the transport of pure-bred bulls. It is expected that by about the middle of April enough pure-bred stock will be sold to make up a car load. The sellers will require to advise the secretary of the association of the number and destination of the animals, when he will at once proceed to make arrangements for having them shipped off to their destinations in charge of a competent man. The secretary is to have nothing to do with the sale or pedigrees of the animals, only the transport arrangements will be attended to by him.

OUR LIVE STOCK INTERESTS.

In this great wheat growing province one frequently hears that wheat is king, but no one could mingle with the stockmen attending the meetings during convention week without feeling that "King Wheat" had a lively rival in the stock interests, at least for the time being. From mingling with the stockmen and from various addresses the fact was impressed upon us that many of the farmers of Manitoba are realizing that stock raising is the sure foundation upon which to base successful farm operations.

During the last year there has been a growing demand for pure-bred stock, especially sires, from all parts of the province, but there is not anything like enough stock in the country to meet the demand. Then, too, the ranchers of the western plains are realizing the deterioration that has taken place in the herds during the last five or six years and are now looking for large numbers of good sires for use upon their range stock.

Turning further afield, to Ontario, where the various live stock associations held their annual meetings the same week as their western brethren, we notice that one and all of these associations report a very successful year. We note, too, the hopeful feeling that ran through all the addresses. The work accomplished by the Dominion Cattle, Sheep and Swine Breeders Associations in securing reduced rates from the railways for carrying pure-bred stock, either in car lots or individually, has been a great boon to stock breeders in all parts of the Dominion. These associations, and particularly their indefatigable secretary, F. W. Hodson, should have the thanks of every breeder for these privileges, especially the one allowing the associations to collect animals from various breeders and ship all in one car. As a rule, stockmen are not wealthy, and the reduced cost of transportation is a great advantage to them. Then, too, Canada is a country of long distances. By these arrangements the breeders in the Maritime Provinces and Newfoundland in the east; and from Manitoba to British Columbia in the west, are benefited and brought near to each other.

As an example of the reduction effected by the associations we may say that the freight charges from Ontario points to Winnipeg have been reduced considerably over one-half for young animals, and the reduction has been even greater for older ones. These reductions have particularly benefited small breeders and put it within the power of farmers to obtain individual animals from the large breeding centres at reasonable rates, but which were heretofore almost prohibitory. These reductions will have a decided effect in developing inter-provincial trade.

If the figures were at hand they would show very clearly that the breeders of Manitoba and the Territories, as well as British Columbia had greatly benefited by reason of the reduced rates.

But the reduction in the freight rates is not the only good work the Live Stock Associations have accomplished during the past year. The monthly lists of live stock for sale, which have been published and sent to breeders throughout Canada and the United States, have been a most potent factor in making sales and developing inter-provincial trade. This list has been of special benefit to the small breeders and also to prospective buyers. They have brought the buyer and the seller together in a way that was never done before and are capable of accomplishing even greater good than they have done by developing a large inter-provincial trade in all kinds of live stock.

Winnipeg Industrial Exhibition.

The annual meeting of the shareholders, held on Thursday, Feb. 16th, brought out a larger attendance than any previous meeting. The manager, F. W. Heubach, presented his annual statement, which showed that the association had had a successful year, and came out with a balance of \$1,684.89 to the good, besides adding largely to the buildings on the grounds and making many improvements. The annual report, which had been distributed in printed form, then came up for adoption. Objection was taken to the way many items had been grouped into large sums without giving detail, and it was contended that as the institution was supported by public moneys the taxpayers were entitled to the fullest information. Space will not permit of discussion in this issue, but on a future occasion we may take up the question. Balloting for directors then followed, with the following result: Messrs. Wm. Brydon, S. Nairn, F. W. Thompson, John McKechnie, G. F. Bryan, A. Strang, G. F. Galt, D. E. Sprague, D. Smith, Mayor Andrews, I. M. Ross, L. A. Hamilton, G. J. Maulson, A. M. Nanton, E. L. Drewry, J. T. Gordon, and J. H. Ashdown.

The balance of the board of directors are: Ald. Ross and Harvey, representing the City Council; D. Munroe, the Manitoba Dairy Association; H. A. Chadwick, the Manitoba Poultry Association; R. I. M. Power, Carberry, the Manitoba Horse Breeders' Association; John G. Barron, Carberry, the Pure-Bred Cattle Breeders' Association; S. J. Thompson, the Sheep and Swine Breeders' Association.

At the close of the meeting the directors present met and elected Wm. Brydon president. The various committees were then appointed and a start made for another successful exhibition, which is to be held from the 10th to 15th of July, 1899.

Live Stock Impounded.

Impounded.

St. Andrew's (municipality), Man.—One horse, color dark grey, hind feet white, branded on right shoulder with a heart scar on right hip, branded J. T. on left side, about 4 years old. W. C. Sutherland.

St. Francois Xavier (municipality), Man.—One colt, color red, white star on forehead, and left hind feet white, about 3 years old. Paul La France.

Dauphin, Man.—One gelding, color dark bay, with lump on right fore knee, about 6 years old. D. McKillop, 3, 26, 19.

Estray.

Petrel, Man.—One red and white 2-year-old steer. S. McKinnon, 36, 11, 15.

Wellwood, Man.—One 2-year-old heifer. J. Munro, 36, 12, 15.

Lost.

Wellwood, Man.—One cow, light red, 8 years old, white spot on forehead, small piece off points of both horns. Reward, \$5. David Wright, 36, 12, 14w.

Hazel Cliffe, Assa.—One black Polled steer, hind feet turned in, slit in ear, about 3 years old, lost since November. J. S. Lee.

Dauphin, Man.—One dark sorrel mare, 3 years old, broad white stripe on face, both hind legs and one front leg white about half way up to the knee, low set, weighs about 1,100 lbs. Reward, \$15, for information leading to recovery. A. G. Ross.

COLD STORAGE

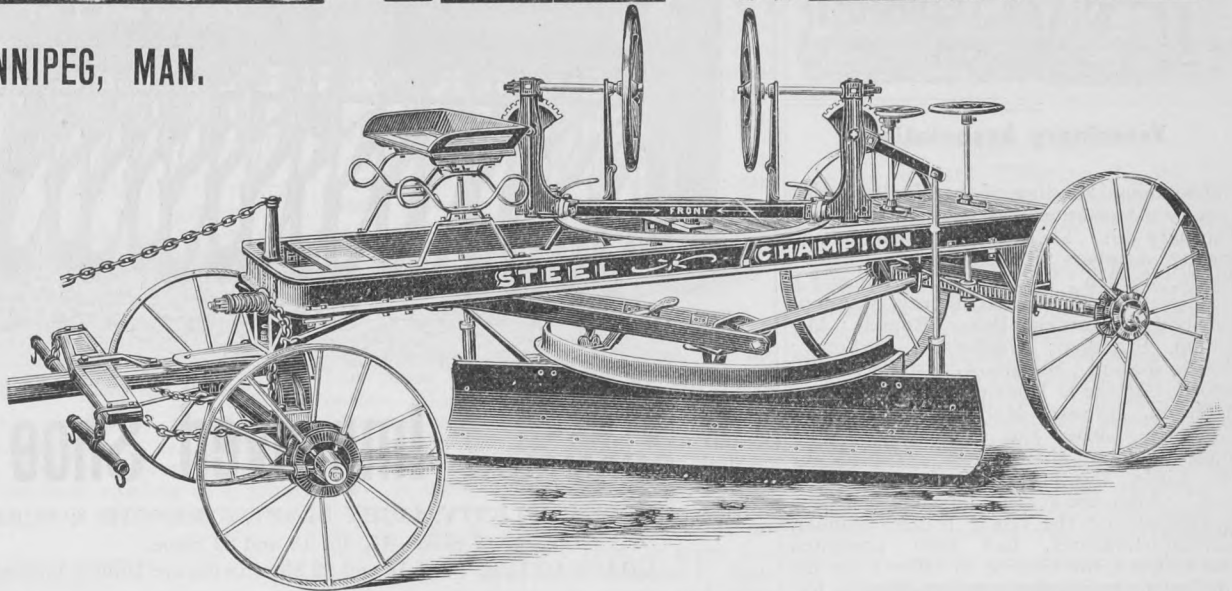
For Creameries, Dairymen and Butchers, References—C. C. McDonald, Dairy Inspector, and Ald. T. Cowan, Winnipeg. Prices given on application.

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Market Review.

Winnipeg, Feb. 20th, 1899.

Reports from the Western States are to the effect that range cattle suffered a great deal during the exceedingly cold and stormy weather we have lately experienced. What our own range cattle have suffered has not been reported as yet.

Bonspiel week was a good one for merchants in Winnipeg. General business throughout the country is quiet. During the cold weather wheat deliveries practically ceased. Wholesale business is reported as being very good. Bank clearings continue to be ahead of previous years.

Wheat.

Wheat has made practically little or no change for weeks. One day the bulls have the turn, the next day the bears have rather the best of the game. This afternoon the Chicago quotations were about a cent and a quarter better than they opened. On the local call board about 68c. was the figure in the end of the last week. To-day buyers stood at 69c., sellers 69½c., and next to no business doing. A little more certainty as to the effect of the last fortnight's frost on the U. S. crop may influence prices one way or the other, but meantime business is stagnant. The elevator men are insisting on grain being cleaned out of the elevators before the 10th of March for fear of grain heating. Farmers should take note of this. The inspection of cars at Winnipeg for the past week are: Extra Manitoba hard, 1 car; No. 1 hard, 37; No. 2 hard, 6; No. 3 hard, 2; No. 1 northern, 39; No. 2 northern, 13; No. 3 northern, 1; No. 1 spring, 4; No. 1 white Fyfe, 1; No. 1 frosted, 1; rejected (1), 4; rejected (2), 2; no grade, 140; total, 251 cars.

This shows the very unsatisfactory quality of the grain now moving.

Oats

We may quote about 3 cents better than a fortnight ago. Best northwestern oats now make 34c. at Winnipeg. Local deliveries 27c. to 31c. It is very likely that these figures will be sustained, as there is a strong feeling all over that a change of seed, and that of the best procurable, must be got to

keep up the quality. Dow & Currie, of Pilot Mound, are looking up good seed samples for that district, and any choice lots will make all that is yet going, and perhaps more.

It is about needless to quote for any other cereal products, as last fortnight's quotations are practically unchanged.

Horses.

Dealers report that several car loads of horses have been sold, but prices vary so according to quality that no figures can be given. Grand's Repository, Toronto, report a sale of drivers at from \$65 to \$175, according to quality. A lot of delivery horses that had been in use for some time sold for about an average of \$40, while several pairs went for \$200 to \$265. Horses of good weight and fine quality and action always bring the highest price.

Cattle.

Market is quiet. Reports from the ranges as to the effects of the recent cold weather have not come in yet. Butchers' cattle run at about 3½c.

Milch cows continue at prices given in last market report.

Sheep.

None offering.

Hogs.

Choice weights, off the cars, bring 4½c. market in the east is looking up a little.

Cheese.

Prices remain at figures quoted in last report, 9½c. for large and 10c. for small ones.

Creamery Butter.

The market is steady. Prices run at from 22c. to 23c., according to quality and quantity.

Dairy Butter.

Market quiet at perhaps a trifle better figures than at last report. Rolls and prints bring 15c. to 17c. Good dairy tubs will bring about the same prices.

Eggs.

No change in prices since last market report.

Poultry.

Manitoba chickens are scarce and good prices are being offered for them; 10c. to

12c. per pound. Other poultry about the same as in last report.

Potatoes.

Quiet at 40c. to 45c. per bushel.

Hides

No change. Same as last market report.

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THE WINDSOR SALT CO., Ltd.

WINDSOR, ONT.

BROME GRASS SEED.

CHOICE HOME GROWN.

APPLY TO—

H. W. White, Carberry, Man.



Veterinary Association.

The annual meeting of the Manitoba Veterinary Association was held in Winnipeg, February 8th. There were present the following members: Drs. Spiers, Virden; Nagle, Morden; W. H. Smith, Carman; J. H. Lipsett, Holland; McGillivray, Manito; Rombough, Morden; Baker, Russell; McMillan, Brandon; Henderson, Carberry; Welch, Roland; Shoults, Gladstone; Ruth-erford, Portage la Prairie; Coxe, Brandon; Atkinson, Hinman, Martin, H. D. Smith, Torrance, Little, and Dunbar, of Winnipeg. The chair was occupied by Dr. Little, the president of the association. After the routine business had been transacted and the report of Dr. Dunbar, secretary-treasurer, had been presented and adopted, the election of officers for the ensuing year took place, and resulted as follows: President, H. D. Smith, Winnipeg; vice-president, Dr. John Spiers, Virden; secretary-treasurer and registrar, Dr. W. J. Hinman, Winnipeg; examining committee, Dr. W. S. Henderson, Carberry; and Drs. Smith and Hinman, Winnipeg.

Dr. Hilton read a very instructive paper on "Excision of the Mammary Gland," which was afterwards fully discussed by the members of the association. The subject of tuberculosis in cattle was then taken up and formed the main topic of the evening.

Answers to Questions.

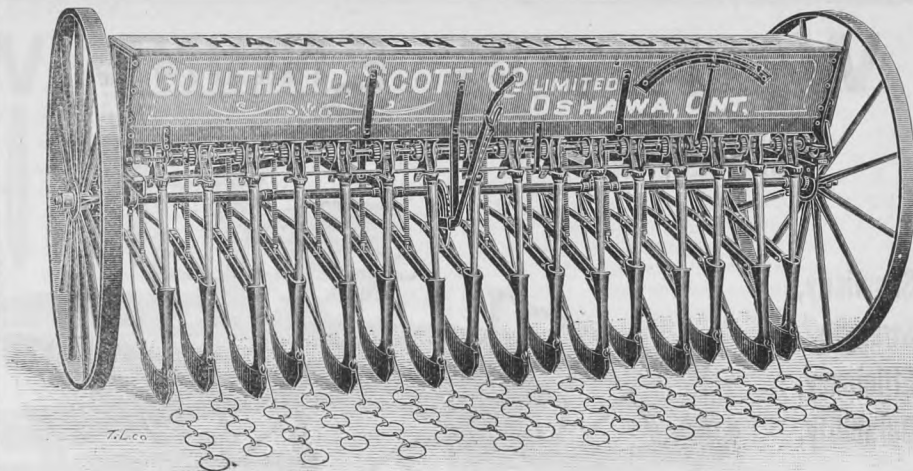
By an Experienced Veterinarian.

As it is desired to make this column as interesting and valuable as possible to subscribers, advice is given in it free in answer to questions on veterinary matters. Enquiries must in all cases be accompanied by the name and address of the subscriber, but the name will not be published if so desired. Free answers are only given in our columns. Persons requiring answers sent them privately by mail must enclose a fee of \$1.50. All enquiries must be plainly written, and symptoms clearly but briefly set forth.

Septic Metritis.

B. T. W., Seamo: "I had a cow calve on Feb. 5th, 1899. She had twins, but both were dead. She appeared all right herself, but did not clean well. I noticed on the 7th that she did not appear well, so gave her a pint of linseed oil. On the 8th she took her mash and bran, but would take nothing else. Then she got very sick, breathing heavy, as though she had a bad cold. There was twitching of the muscles in her fore legs. I blanketed her. I offered her oatmeal gruel, but she would not take it; so I put twenty drops of aconite in it and gave it as a drench. She died on the 8th. I examined her and found a large swelling just inside the top of the pelvis, and inflamed towards the calf bed. Can you inform me as to what was the matter and what should have been the treatment?"

Answer.—Your cow died from septic metritis, a condition resembling blood poisoning and caused by the presence of putrid matter in the womb. Part of the afterbirth must have been retained, and becoming putrid set up inflammation in the womb, and poisoned the system. Treatment includes removing the retained placenta, washing out the womb with a warm antiseptic solution until perfectly clean, and the administration of medicines calculated to purify the blood and counteract the bad effects of the septic material circulating in the system.



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WRITE FOR CATALOGUE TO . . .

The Frost & Wood Co., Ltd., Winnipeg.

A Question in Breeding.

J. G., Pilot Mound: "I. My bull is addicted to the habit of self-abuse, which he practices very frequently. Have had very poor satisfaction with him as a breeder during the past year, and, though being heavily fed, he keeps very thin. Can any treatment be applied to cure him of the habit? 2. Is there any way of bringing cows more readily into season?"

Answer.—1. Don't feed much stimulating food and give the bull exercise every day. If the habit is too strongly confirmed you had better have him castrated and get another bull.

2. There is no way more sure than keeping the cows in good healthy breeding condition by suitable feed, exercise, and care in preventing them from becoming too fat. In summer time, when at pasture, the presence of a bull in the herd has a good effect.

Scratches.

Driver, Winnipeg: "Horse has had scratches for some time, and I have tried zinc ointment and other external applications, but without cure. His legs do not swell, and there are no signs of grease leg. Should not some medicine be given for the blood, and what would you recommend?"

Answer.—Yes, an internal remedy will assist in effecting a cure. Would recommend powdered hyposulphate of soda—a tablespoonful in the feed two or three times a day.

Itchiness—Clipping Horses.

W. J. R., Pipestone: "I. My horses are troubled with itchiness, more especially between the hind legs and under the belly. There is quite a scurf, which comes off when you rub it. What is wrong and what is the cure? I understand there are a number of horses with the same trouble around here. Would you advise clipping the hair off heavy horses in the spring? 2. Are hen lice and cattle lice the same, or will hen lice live on cattle?"

Answer.—1. Itchiness in the localities mentioned, on the legs and under the belly, is often caused by a minute parasite, much smaller than a louse, and belonging to the same family as the mites which cause mange in horses and scab in sheep. This parasite prefers to live on the skin of the hind legs,

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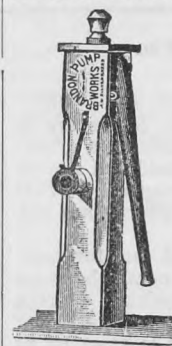
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but is occasionally found on the lower part of the body. It may remain on the same horse for years, giving no trouble in the summer time, but causing itchiness in the winter months. The reason for this is that the parasite lives on the secretion from the tiny sebaceous glands of the skin. These pour out an abundant secretion in warm weather, but in winter their product is scanty and the parasite is obliged to bite the skin to obtain a living. Treatment of such cases is rendered easier if the legs are clipped. Wash the parts affected with soft soap and water to remove all scabs; then wet the skin thoroughly with a 4% solution of creolin in water. Repeat twice a week until cured.

2. Hen lice and cattle lice are of different species, but hen lice will live on cattle for a time and occasion much discomfort, although they are not as injurious as the variety peculiar to cattle. Hen lice are sometimes called "the little red lice" to distinguish them from ordinary cattle lice, which are larger and of a bluish white color.

Ringbone.

J. B. D., Didsbury, Alta.: "I have a colt, 8 months old, which I weaned at 4 months, and kept tied in the stable ever since, only leading it out to water every day. On January 28 I noticed a lameness in its left hind leg. There is a swelling just above the hoof, which I think causes the

lameness, and has the appearance of ring-bone. Will you please prescribe treatment if you consider it ring-bone?"

Answer.—The history of this case, the long confinement in a stable, makes it likely that this colt is now suffering from ring-bone, resulting from neglect of the feet. When a horse is prevented from taking exercise by being constantly stabled, the hoofs are not worn off as fast as they grow, and gradually attain an unnatural length. This excessive growth should be pared off at regular intervals, otherwise an undue strain is thrown on the bones and ligaments and disease may be produced as in this case. Begin your treatment by trimming the foot short, then apply a blister to the ring-bone, and repeat in a fortnight. If not cured, then have the part fired by a veterinary surgeon.

Lice on Cattle—Swelled Udder.

H. H. E., Marringhurst: "1. Can you tell me the best way to rid cattle of lice; also colts? 2. What is the best thing to use to take down the hard swelling in a young cow's udder, as ours are coming in very much swollen?"

Answer.—1. See answer to X. Y. Z., on page 83 of last number.

2. Milk frequently, gently and thoroughly. After milking rub the udder for some time with camphorated oil and goose oil in equal parts. If the udder is inflamed and painful, hot water bathing should be used several times a day in addition to the hand-rubbing.

Loss of Cud.

M. F. L., Gilbert Plains, writes: "We have had three cattle,—one 7-year-old cow and two heifers coming 3 years old that have been casting up their cud. It was started by the cow about ten days ago, and since then the two heifers have been affected in the same way. They refuse to drink, and the cow lost her appetite, had a dry nose and cold horn for the first day or two. The two heifers, beyond refusing to drink, appear to be none the worse for the attack. Our cattle are all housed in comfortable stables, and are not left out long on cold or stormy days. The cattle in the stable the affected ones are in were fed oat straw in the beginning of the winter, and were then changed on to wheat straw, and get wheat straw to run at through the day. I should say that there was considerable twine in one piece of cud that one of the heifers cast up, but none noticeable in any of the rest. What is the cause of this, and what should be done to stop it?"

Answer.—Loss of cud is not a disease of itself and is usually only a symptom of some derangement of the digestive organs such as indigestion, impaction of the rumen, and constipation. The conditions affecting your cattle are apparently all right with the exception of the feeding on wheat straw, which is a food very deficient in nutritive elements, difficult of digestion and tending to produce constipation. If the straw was in any way injured by wet, as may easily be the case during the prolonged wet weather of last fall, it would cause the symptoms presented by your cattle. You should change the feed, and if there is no fodder to be obtained but wheat straw, give bran mashes or roots in addition. If the cattle are still affected when you read this, give each of them a full dose of Epsom salts.

Rheumatism in Young Pigs.

C. D., Regina: "I have five young pigs, 3 months old, that are unable to walk without pain. Seem to be crippled, lie down all the time, only getting up, and then with difficulty, at feeding time. They are fed on chopped wheat and oats, mixed with skim-milk. They were first in rather a cold

stable, then were moved to a warmer one. Symptoms first began with twitching in the face. Please give cause and remedy."

Answer.—Your pigs are affected with rheumatic inflammation of the joints as a result of their experience in the cold stable. Although you have removed them to a warm place and the cause of the disease is no longer at work, the effect it has produced will probably remain, and your pigs are likely to remain permanent cripples. The disease produces serious changes in the joints where the smooth surface of the cartilages covering the ends of the bones become ulcerated and roughened. Every movement is then painful and medicinal treatment is of very little use.

Saltpetre—Antimony, Etc.

J. B., Moosomin: "1. Please tell me how often saltpetre should be given to horses. What color should their urine be? Should it be white? 2. I have a horse, now 5 years old, that has always been thin in flesh; no amount of feed will put flesh on him. Is black antimony good for putting flesh on a horse? How much of it should be fed, and in what way? Will it do harm? 3. How should resin be given to a horse? Is it good with saltpetre? How much of each should be given, and what is it good for?"

Answer.—1. Your question implies that it is necessary to give saltpetre to horses, and that is an idea which should be given up. A healthy horse requires no drugs, and much harm is done by indiscriminately giving saltpetre, resin and other drugs to horses that do not need them. A horse's urine is naturally pale and slightly turbid—that is, not perfectly clear. When largely fed on oats it is frequently so turbid as to appear whitish. When a horse has been sweating freely the urine is more scanty and more highly colored than at other times. A whitish appearance in the water is not a symptom of disease of the kidneys but an indication that the amount of oats given is larger than necessary. Saltpetre increases the quantity of urine and renders it more transparent. It may be given, *when required*, in teaspoonful doses two or three times a week.

2. Black antimony is a drug which has fallen into ill-repute from the uncertainty of its action, and the fact that the improved condition sometimes seen in horses does not last after the drug is withdrawn. I would not, therefore, advise you to use it, but to give your horse a good tonic which will increase his appetite, improve his digestion and enable him to put on flesh. Such a tonic is composed of powdered sulphate of iron and gentian, 1 part of each; powdered ginger, $\frac{1}{2}$ part. A large teaspoonful in the feed three times a day. Have his teeth examined by a veterinary surgeon.

3. Resin is used, like saltpetre, to increase the quantity of urine secreted. A tablespoonful of the powdered resin is an ordinary dose. If used with saltpetre, half the above dose is sufficient.

Lame Knee.

Geo. Harbottle, Pilot Mound: "My horse is quite lame on one front knee. He hurt it about two years ago in the bush and seems quite stiff on it. Some times there is quite a lump on it, as though it were swollen. When I take him out of the stable and walk him a little, he goes quite lame, and it is worse when he trots. He is in good order and feels good and eats well. What can I do for him?"

Answer.—Your horse has been lame for such a long time that the chances of curing him are very remote. In chronic lameness caused by disease of a joint such as the knee, the best results are obtained by treatment with the actual cautery, or "firing," and I would advise you to take your horse to a veterinary surgeon.

Pin Worms.

Sub., Morden: "My colts are troubled with pin worms. What is the best way of getting rid of them?"

Answer.—See answer to G. Lawley in the Nor'-West Farmer for Feb. 6th. A colt will require about one-quarter the dose for an adult.

Hypodermic Medication.

G. E. Goddard, Cochrane, N. W. T.: "Kindly inform me if there is any Veterinary work that treats with hypodermic injections."

Answer.—There is no work known to me which deals exclusively with hypodermic medication, but all works on veterinary therapeutics contain the information required. "A Manual on Veterinary Therapeutics," by E. Walter Hoars, F.R.C.V.S., will probably fill the bill. Medicines to be administered by hypodermic injection must be soluble, non-irritating to the tissues, and not too bulky, and these limitations confine us to rather a limited number of drugs, of which some are so expensive as almost to preclude their use for veterinary purposes.



While our columns are always open for the discussion of any relevant subject, we do not necessarily endorse the opinions of all contributors. Correspondents will kindly write on one side of the sheet only and in every case give the name—not necessarily for publication, but as a guarantee of good faith. All correspondence will be subject to revision.

[Owing to our devoting so much space in this issue to the conventions held this month, we are compelled to hold over several pages of interesting correspondence, and other matter, which will appear in our issue of March 5.]

Warning Against Rye.

G. E. Goddard, Bow River Ranch, Alta., writes: "I see in your issue of January 20 a letter from R. G. Speers, Battleford, enquiring about rye for hay. I would like to warn him and others against it for female stock of any kind, and for males also, if not cut, as you suggest, in the bloom. Through it last year I had 30 cows slip their calves or have dead ones, four cows died, and I nearly lost a stallion. The ergot in it is difficult to see sometimes; it paralyzes an animal in the legs first and ends in convulsions. Cut very early, it is good and safe for calves and steers, but does not equal other green feed. It's only advantage is its heavy sure yield. Smut in oat or wheat hay is almost as bad as ergot."

Fodder Corn.

H. B. Whelpton, Moosomin: "Would like to get all the light I can on growing fodder corn. How it is generally cut, etc. That of Mr. Lawrence, in January 20th issue, was very good."

Answer.—See report in this issue of Mr. Munroe's address on "Corn Growing," at the Wednesday evening meeting.

A Good Whitewash Wanted.

S. S., Ochre River, wants whitewash for a log building that will not rub off.

Note.—The information will be found on page 369 of the August issue of The Nor'-West Farmer, 1898.



Clearwater.

Three or four miles west of the town is the "Restronguet Stock Farm," owned by the well-known Shorthorn breeders, Jos. Lawrence & Sons. This herd has in past years won for itself quite a reputation in the Provincial show rings and is generally well-known. At present about 100 head are kept. This farm certainly contains splendid facilities for the stock business, comprising as it does, 1280 acres of grazing land and being well provided with good buildings. The main barn is 80x62 ft., with stone foundation and entirely planned for cattle stabling and feeding. It is surmounted by a wind-mill, used for chopping, etc. The Messrs. Lawrence have also instituted somewhat of a department by using pulleys and a wire cable to operate a pump 60 feet distant. It seems to work nicely. Another new building, 40x70 ft., is fitted up as a horse and cattle stable. A piggery is being planned for the coming summer. Some of the buildings and a quantity of the feed was burned in the fall of 1897 and the business has to a certain extent been crippled ever since.

Some of the Shorthorns to be found on this farm are very nice ones. "Indian Warrior," the six year old roan bull, which was a sweepstake animal at the World's Fair, is one in which Mr. Lawrence takes a great deal of pride, but we thought much more of "Sittyton Stamp," his imported herd bull, a red and white with a fine straight back, and a hind end well filled out, a heavy animal and in first-class breeding shape. This bull was bred by Wm. Duthie, of Collynie, Scotland, and is seven years old.

A few of the cows are really handsome ones, but the most of them are kept in ordinary breeding shape. "Village Lily," the "big white cow," of which everybody in Manitoba has heard more or less, and which was awarded third place as a cow at the World's Fair, is still very much in evidence. She is just as big and about as fat as ever. She is a wonderfully broad animal, measuring about three feet across the hips. This one and another, "Wimple of Halton," divided the first and second prizes at Winnipeg for a number of years. "Lenora 11th," is a cow rising five, which is a really good animal. "Florence of Clearwater," a cow of five years old, and one which has never been in the show ring, is probably the most useful cow on the farm. She has raised some extra nice calves, one of the cows recently sold by Hon. T. Greenway to Mr. Allison, of Roland, being of her raising. Another, "Spot," a red three year old, is a pretty close rival. She took 1st place in Winnipeg in 1897 as a two year old heifer, and is a blocky cow of great depth and unusually low set. There is no doubt about it—she is of a beef type. Calves from both these cows have been sold to L. Stone, of Yorkton, and they are doing very well. One of these, "Jubilee 2nd," is a remarkably fine, broad straight calf. A couple of other heifers, going to James Connery, of Morris, are promising young things—one of them especially so. A bunch of young bulls were getting pretty well sold out. The heifers were being largely kept to replenish the breeding stock of the herd. Some young animals have been sold to go out to different parts of Manitoba and the Territories, and will

be delivered about March. The demand for young stock, Mr. Lawrence says, has always been good, but he has found it especially so this year, particularly for females.

Rosenfeld.

One mile to the south of Rosenfeld is the farm of Jacob Siemens, a photo of whose house and buildings is given in this issue on page 111. Mr. Siemens purchased this quarter section in 1891 for \$400, which was to be paid for in three years, with interest at 6 per cent. Part of the land is low and hard to work, being gumbo soil, and thus not nearly so good as much of the land in the immediate neighborhood. However, he pitched his tent here in 1891, took out himself a wife, lived in a shanty, and with a team of horses and a yoke of cattle set to work to make a home for himself. His crops the first two or three years were rather disappointing, and it was not until 1895 that he had a really good crop of 2,470 bushels of wheat, besides flax, oats and barley. He built a granary, 18x28x10 feet high, to hold his grain, costing \$150 besides his own labor. In 1896 he had 1,800 bushels of wheat and 600 bushels of flax, oats and barley for home use, and built the barn shown in the photo, which for beauty of design and convenience of management inside is a great credit to him. The barn is 38x48 x12 feet high, including the lean-to, and cost \$650. During the year he added 120 acres of an adjoining farm at a cost of \$1,150.

In 1897 he had 3,100 bushels of good wheat, besides other grain. Between seeding and harvest he erected the house as seen in the photo. The main part of the house is 18x24x12 feet high, which, with the kitchen, makes a most comfortable farm home. It is well furnished throughout, painted inside and out, and only cost \$1,000. It must be remembered, however, that the Mennonites are handy with carpenters' tools and do all the painting themselves. The next winter he bought an adjoining quarter section for \$3,000, paying \$1,500 in cash.

His wheat crop in 1898 was 4,900 bushels of good wheat. He increased his granary capacity by building another granary, 22x24 x12 feet, costing \$200. Neither of the granaries are shown in the photo. Both are well painted. Besides wheat he has 750 bushels of flax and 2,000 bushels of oats and barley as the balance of his 1898 crop.

The success attending Mr. Siemens' efforts at establishing a home are certainly good. Beginning, as stated, in a small way, in eight years he has paid for his land, purchased more, built substantial buildings, added the necessary farm implements and has eight head of heavy draft horses, besides other stock. His total assets to-day amount to \$15,000. His liabilities, largely made up of the balance of his last purchased land, leaving him as earnings during the eight years he has been on the farm the handsome sum of \$13,000.

Mr. Siemens is not so robust and corpulent in composition as the majority of his countrymen, but is a jolly good fellow withal, with a very keen eye to business. He is an excellent manager and employs a number of green Russian boys, spending their first year in the country. He is never in a hurry or flurry about his work, but it is always done in first-class order and up to time, and generally ahead of most of his neighbors.

A. D. Chisholm & Co., Griswold, have sold their trotting stallion, Ellis Medium, to W. Crothers, Pipestone.

A. & J. Morrison, Carman, have sold their Shorthorn bull, Sir Walter 3rd, winner of third place in the 3-year-old section at Winnipeg, to H. Laycock, Rosebank.

Germination Tests of Grain.

All the varieties of grain grown on the Brandon Experimental Farm have been tested for germination at the Ottawa farm, and the returns are just to hand. Very much complaint is heard of the poor germination of grain from last year's crop. From the accompanying tables it will be noticed that this state of affairs is not prevalent on the experimental farm; the percentage of germination being up to the average of former years. All the grain tested was perfectly dry, not having been injured in the stack.

WHEAT.

Number of varieties tested, 44.
Highest percentage of germination, Golden Drop, 100 per cent.
Lowest percentage of germination, Goose wheat, 85 per cent.
Average percentage of germination for the 44 varieties, 95 per cent.

OATS.

Number of varieties tested, 70.
Highest percentage of germination, American beauty, 100 per cent.
Lowest percentage of germination, Rosedale, 84 per cent.
Average percentage of germination for the 70 varieties, 98½ per cent.

BARLEY.

Number of varieties tested, 41.
Highest percentage of germination, Men-sury, 100 per cent.
Lowest percentage of germination, Thanet, 86 per cent.
Average percentage of germination for the 41 varieties, 94½ per cent.

Horse Breeders' Association.

A meeting of the Horse Breeders' Association was held Thursday morning of convention week, in the City Hall, Winnipeg. Dr. Rutherford, Portage la Prairie, presiding. The secretary-treasurer, W. L. Puxley, presented a statement of the finances, showing a balance on hand of \$42.06, the best in the history of the association. The prospects and possibilities of the association came up for discussion and the general feeling seemed to be that while it was doing a good work, the association was not doing all that it might do nor all that it could do to advance the best interests of horse breeding in the Province. After considerable discussion, it was moved by Dr. S. J. Thompson, Carberry, that the association change the date of its annual meeting from July to the time of the Live Stock Conventions in February, and that a convention be held then at which addresses shall be given and papers read on horse interests. This was unanimously agreed to. The annual membership fee will accordingly be due now and the year will expire just before the next annual meeting. The election of officers resulted as follows:—President, Dr. Rutherford, M.P., Portage la Prairie; Vice-Pres. for Manitoba, R. M. Powers, Carberry; Vice-Pres. for N.W.T., C. W. Peterson, Regina; Treas., W. L. Puxley, Winnipeg. Executive Committee, John Hanbury, Brandon, representing standard breeds; John Wishart, Portage la Prairie, hackneys; J. E. Smith, Brandon, Clydesdales; N. Boyd, Carberry, thoroughbreds; Glen Campbell, Glen Lyon, shires; J. W. Knittel, Boissevain, coach horses; Drs. Thompson and Shaw, Carberry, and Geo. Harcourt, Winnipeg.

At an executive meeting held after the general meeting, W. L. Puxley was elected secretary. R. M. Power was elected representative to the Winnipeg Industrial Exhibition, and it was decided to have a meeting Friday evening of fair week.

Farmers' Institutes in Central Assiniboia.

A series of meetings has been held under the auspices of the Central Assiniboia Agricultural Society. The meetings were attended by C. W. Peterson, Territorial Deputy Minister of Agriculture; Angus Mackay, of the Indian Head Experimental Farm; J. A. Kinsella, of the Dominion Dairy Department, and Wm. Trant, Secretary of the Regina Agricultural Association. The first meeting of the series was held at Qu'Appelle. Wm. Henley, president of the association, in opening the proceedings, explained that the object of the meetings was to discuss agricultural questions generally, but with particular reference to the scheme under the consideration of the N. W. T. government for forming farmers' institutes.

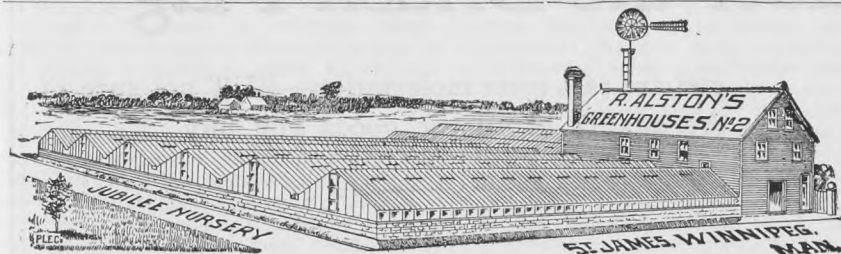
L. G. Bell read a paper on the quality of cattle.

C. W. Peterson said that in his opinion every thinking farmer would naturally become identified with his local society. The farmer who could not muster up enthusiasm enough to join a society had missed his vocation. The department of agriculture, which had only been organized since June, had for its object to do all that could be done for discovering, developing and utilizing the resources of the Northwest Territories. That was a big job; but unless they could show the benefits to the country in this way they could not justify the existence of the department. Mr. Peterson then detailed how the different ordinances were worked by the department, the herd ordinance, brands, hospitals, charities, and many other ordinances. Arrangements had been made with the Dominion government to extend the meteorological department. That was a most important matter, because it was important to have trustworthy information on the rainfall in different parts of the country. Then again the collection of statistics was a more important matter than was often recognized. Uncertainty in the knowledge of production was always a factor in depreciating prices.

He would give an instance. In the Kootenay there was a demand for oats. Now, as the quantity of oats produced in the Northwest was unknown, the dealers came, especially along the Edmonton line, and offered very low prices, and the farmers having no means of ascertaining what the demand was likely to be, nor what supply there was, sold at the first opportunity, perhaps at 15c or 20c a bushel, sooner than run any risk. One of the objects of the department was to find out what was the demand, what was the supply, and to give the information to the farmers. Mr. Bell had referred to Argentina, and he could assure the meeting that that country was no mean competitor. It was a wonderful country. Last year it exported eighty-four million bushels of wheat, whereas Canada exported only nine millions. As Mr. Bell had said that republic was now importing pure bred stock from Great Britain and France, in which latter country was now being bred a very fine strain of Shorthorns; while it was well known that the quality of the cattle on our western ranches was deteriorating. He had no hesitation in saying that nine-tenths of the prairie cattle exported to the old country were in an unfinished condition, and yet it was good enough to be sold as prime Scotch, certainly a compliment, but at the same time it was hardly fair not to give Canada credit for its own productions. The Territorial government was doing what it could to import pure bred stock, and if any farmer purchased a bull down east the government, on receipt of \$5, would pay all the cost of transportation, and as that was about \$17 it was about equal to a bonus of \$12. This announcement was made some time ago, and he had expected that he would have been flooded with applications, but so far very few had availed themselves of the opportunity. In North Qu'Appelle they were clubbing together to send a buyer down east for bulls, and he thought this was a question the societies might well consider. Mr. Peterson then spoke of agricultural societies, of which there were forty-four in the Territories, and pointed out that they ought to have many objects in view besides holding shows, such as im-

porting improved seed and stock, having discussions, and generally promoting agriculture. A question to consider was whether the societies should not undertake the work of the institutes as well, so as not to have too many organizations. It had been suggested that when there were ten societies in a locality a central institute should be formed of delegates from such societies, and it had been suggested that the government should help in the matter. That was an important question, and one worth consideration. He might say that the government was willing to help in that direction. Such institutes would have great influence. There were similar organizations in other countries, and they were a power in the land, their opinions carried great weight. The great point was to have such institutes upon an efficient basis. The government was considering an ordinance on the subject. It would shortly be printed and distributed among the different agricultural societies in the hope that it would be studied, and any improvements that might be suggested would meet with proper attention and consideration.

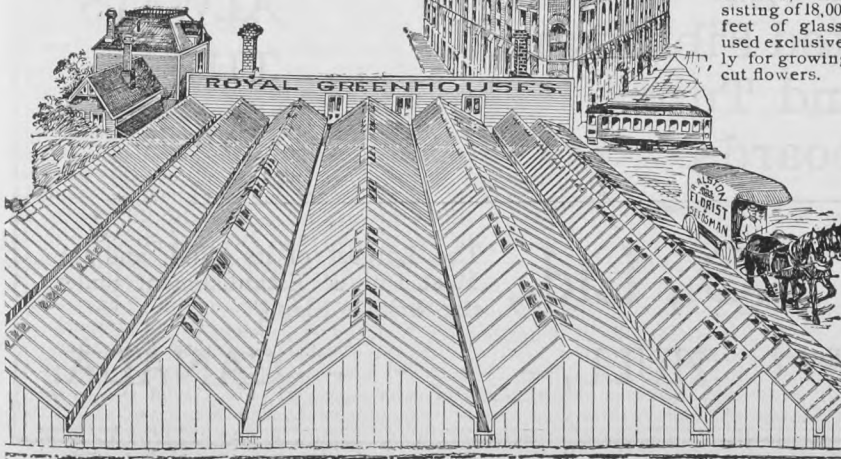
J. A. Kinsella then read the following paper on "Co-operation Necessary for Successful Dairying." He said: "In order to establish a successful dairy business in any province, the first and most necessary point for the success of that enterprise is to have the good will, the hearty support, and co-operation of the farmers, together with all the possible assistance of men interested in dairying. Without this assistance it is utterly impossible to receive any government aid to build up a dairy industry in any district, no matter how well adapted that district may be for dairying. What do we mean by government aid? We mean that the Dominion government undertakes to do for the farmers what they are not, individually, able to do for themselves. This is done in the manner which we are at present operating the creameries for the farmers in the Northwest Territories. You may say what do we mean by co-operation? We mean to state that it is absolutely necessary to have the joint efforts of every dairyman in each district combined with the efforts



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and experience of the government officials, which is essential in order to make a success of dairying, or, in other words, to carry out the aim of our department, namely, to place each creamery on a self-sustaining basis, or substantial foundation; at the same time the farmers undertake the entire management. When the Dominion government first offered assistance to the people of the province of Prince Edward Island, in the direction indicated, why, from the very start they met with the hearty support and co-operation of nearly every farmer and dairyman in the province. Now, why cannot the farmer and those interested in such a deserving project as dairying in the Territories, build up a dairy business which will be second to none in the whole of Canada. Exactly the same results should be attained in the Territories as well as in any other province throughout the Dominion of Canada.

1st. We have a soil which has proved to be unequalled for pasturage, there being an abundance of prairie or buffalo grass for a long season in each year. This native or prairie grass has more than once proved itself to be a splendid milk producer.

2nd. The climate seems to become milder each year, and the conditions for growing fodder crops are almost equal to that of Ontario.

3rd. We are now in a position to manufacture either butter or cheese as cheaply as in any other province in this country.

4th. We are at the door of, I might safely say, "the highest priced markets in the world" for dairy produce, namely, the Kootenay mining districts, the coast cities and the Klondike territory, which has just recently been opened up, and the prospects are very bright towards a good market being opened for dairy produce, not saying anything about the grand opportunity the people of Manitoba and the Territories have at the present time for opening up a mar-

ket for their dairy produce with China and Japan.

A few of the difficulties we have to contend with at the present time are briefly as follows: 1st. The strong efforts put forth by the merchants in the various localities to squash the creamery industry by paying large prices for "home dairy butter." In some places last season I have known merchants to pay in trade, to the farmer, as high as sixteen and seventeen cents per lb. for butter, when the top price for the finest dairy butter on the British Columbia and Kootenay district markets was only eleven to thirteen cents per lb. Of course, the farmer who cannot take advantage of the creamery, and who is blessed with this rise in the price of home dairy butter since the creamery industry has been started, is anxious to see the creamery industry continue. On the other hand, there is a danger of the creamery patron grudging his neighbor this direct benefit which has come to him through the starting of the creamery industry. No doubt some of you have been watching the dairying industry in our neighboring province, Manitoba. During the past season a number of small creameries had to be closed for no other reason than that which I have just explained. I will quote you an instance. About the middle of last summer the merchants in Manitou, in the province of Manitoba, were paying 17 cents for dairy butter. What market they sold it in we do not know, but the result was that the creamery had to be closed inside of two weeks. Dairy butter dropped to 9 cents per lb. in this particular town.

These are some of the reasons why we ask for co-operation of the farmers amongst themselves, together with their co-operation with the efforts of the Dominion dairy commissioner. We had other slight drawbacks to contend with for the first three or four years, such as the cost of hauling cream. This we hope to practically over-

come within a few years. When the plant is paid for and the cost of hauling is reduced the net price to the patron will be much larger. Take, for example, Moose Jaw, one of the oldest creameries operated by the government. It has now reached the point that we can call self-sustaining. There is no loan fund to pay, and the patrons all have their own cream. Last season the average price of butter per lb. was 20 cents, and the net price to the patron was 16 cents.

Angus Mackay, of the Indian Head Experimental Farm, in an eminently practical address, said he was glad these meetings were being held, so as to give some encouragement to the government. He said the results of last year's work on the Experimental Farm were satisfactory. There had been but few failures and many substantial successes. It was seen more clearly every day that summer fallowing was to be the salvation of the Northwest Territories. There might be improvements made in working the soil, but there must be summer fallowing to ensure success. If farmers imagined they could secure crops without summer fallowing they made a mistake. The sooner they realized this the better. The only true way was to plow deeply in the spring. To plow in July, when the weeds had taken up all the substance and all the water from the soil, was no better than fall plowing. The weeds had absorbed the moisture from the June rains, and, that moisture gone, there were no means of restoring it. Unless they could capture the June rain and preserve it in the soil, they lost it altogether. That could be done, and was done in every case, by good summer fallowing. Mr. Mackay then gave valuable information on wheat growing, Brome grass, arboriculture, fruit growing and many other matters, and pointed out the great good that could be done by agricultural associations and farmers' institutes. In answer to a question, he said that frozen



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wheat below the grade of No. 3 hard was no good for seed. Speaking of the past year's work on the Experimental Farm, he said they had had more weeds than ever before. They were chiefly on land not plowed until the 15th June. It was caused by the plowing not being done in time to prevent the weeds germinating. Land plowed in May did not produce many weeds. They had found it a good thing to harrow while the crop was coming up. No harm was done to the crop as many persons feared. He also warned farmers against growing oats on stubble. Farmers who did this made a great mistake. They would have three times as much from summer fallow. Oats required much moisture, and when sown on stubble they did not get the moisture until the rains came, and then there was not time to mature. As to barley, he recommended the Canadian 6-rowed. It was not a malting barley, but for feed purposes it was the best for this country.

Wm. Trant strongly urged the farmers to join their local associations. The great use of such organizations was that it brought the agricultural professor face to face with the practical farmer. Farming was not only a business, but it was an art and a science as well. As a science, however, agriculture was only in its infancy, and the associations could do a great deal to help it forward. He did not know of any calling that required a knowledge of so many things as farming. A farmer ought to know something of entomology, botany and chemistry. If they did not like those long Greek words, he would say that all farmers ought to know something about bugs, weeds, soils, and manures. Take the case of weeds. Some were annuals that could be exterminated with a mower; others were perennials that could not be destroyed without being uprooted. What was a farmer to do if he did not know which were which? It was knowledge of the kind here indicated that the agricultural professor could give to the practical farmer. The great use of agricultural societies was that the farmers met together and compared and discussed their various experiences. This naturally led him to the proposed institutes, of which he heartily approved. As the societies were meetings of farmers to compare experiences, so the institutes were gatherings of the various societies in order to compare their experiences and spread wider and wider the information gained.

As Mr. Peterson had pointed out, there were many objects a society or an institute should have in view besides holding a show; but on the question of the show he wished to make one observation. Many farmers did not show their produce because they knew their neighbors had better stuff and would secure the prizes. This ought not to be. A show was to provide an object lesson on the capabilities of a locality. All that it was possible to show should be exhibited, quite irrespective of getting prizes. Every farmer should show his best, so that it might be seen what the district could produce. He thought also there ought to be prizes, or diplomas, or medals, or recognitions of some sort for implements and machinery. Many of these could be tested on the fair ground, and if disinterested and competent judges gave the awards the farmers would know the best apparatus to buy without having to trust to the blandishments of the implement agent.

G. C. T. Edmonds read a splendid paper on "The Farmer and the Hired Man," which will appear in a subsequent issue of The Farmer.

There was a short but interesting discussion, after which a resolution in favor of the proposed scheme for establishing farmers' institutes was carried unanimously.

The second meeting of the series was held the following day at Fort Qu'Appelle. Archie Macdonald presided, and, in introducing the speakers, spoke of the great

utility of such gatherings. People often thought they knew a great deal more than they did know, but experience showed a man that the more he knew the more he realized how little he did know. There was no doubt about the good done by farmers' institutes and the object of the meeting was, amongst other things, to obtain an expression of opinion on the need of such institutes.

J. A. Kinsella read his paper on "Co-operation Necessary to Successful Dairying," that he read the day previous at Qu'Appelle Station, and which is given above.

The chairman, referring to a statement in Mr. Kinsella's paper that the merchants at Manitou had given higher prices for butter than circumstances warranted so as to embarrass the creamery movement, said that he believed the case was exceptional and was done to boom a particular creamery. Mr. Kinsella replied that there were other places where merchants did the same thing. At Wolseley agents of firms in the Kootenay had gone about and tried to get the patrons of the creamery to withdraw their support.

Angus Mackay, Indian Head, strongly urged summer fallowing as a means to preserve moisture and advocated harrowing just when the grain was beginning to show. There was not a particle of danger to the crop. They might perhaps pull out a few plants that were near the top, but for every stalk pulled out two others would grow. Mr. Mackay then spoke of tree growing, which he urged should be started on summer fallow. Trees were not only a thing of beauty on a farm, but they were useful and valuable. Many of our settlers were young, and if they went in for tree planting now, in ten years they would not only have good windbreaks, but enough trees from thinning out to keep them in firewood, timber for racks, whiffle trees and a host of other things. It was best to grow from seed and transplant. At one time he thought that the Russian poplar was the most suitable tree for the Northwest, but on the experimental farm they found it had gone back, and was not so valuable as had been expected. It did not stand the winds. It was the only tree out of 200 varieties that had gone back. He considered the maple, the ash, and the elm the best trees to grow. Any one could gather the seeds of these trees in the coulees and valleys; the elm in June, the ash and maple in September.

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Speaking of last year's experiments, Mr. Mackay said that White Fyfe wheat had given the best results all round, and Red Fyfe the next, and Welman's Fyfe the next. But the experience of many years showed that the Red Fyfe was the best for this country, as if sown early enough it escaped the frost. One and a quarter bushels to the acre was the best quantity to sow. Mr. Mackay also referred to the presence of white wheat amongst the red that was becoming common in Manitoba and was beginning to show itself in the Territories. The cause was not known, but it was believed the soil had something to do with it. If any farmer had white wheat along with his Red Fyfe and would send a sample of the grain and of the soil on which it grew, he would have an analysis made. He strongly recommended the farmers to grow more barley than they did. The Canadian Thorpe was the best sort for this country, where there was no trouble from the awns, as the winds here blew them off. The feeding quality of barley straw was very high, much more so than either oat or wheat straw. Speaking of farmers' meetings, Mr. Mackay said the farmers ought to show they were willing, even anxious, to give encouragement to the government, who were always ready to act when they saw the farmers interested. Referring to fodder grasses, Mr. Mackay still advocated Brome grass, though it had not done so well on the experimental farm last year as in former years. For a dry year the Western Rye was a good grass, and it did not get too thick, as did the Brome, which was difficult to eradicate, but it could be done by breaking and back-setting, if well done. He would like to say a word about oats. The Banner oat was the best, all things considered. A mistake the farmers made was that they sowed too late. The 7th of May was a good time. It was bad, too, to sow on stubble. Farmers were making a great mistake in this.

Mr. Seymour, as a wheat grower of 20 years' experience, said that he had noticed that the white wheat invariably grew in the low places. He believed it could be stopped by drainage or separate stacking.

Mr. Smith, on the other hand, did not believe high or low lands had anything to do with it, but the white wheat came on the stubble and was caused by the seeds that had lain on the ground all winter.

Mr. Mackay said he hardly thought that draining was feasible in this country, and as

to the wheat that had been on the ground all winter it was found that white wheat appeared among red wheat sown on oat stubble as well as on other stubble.

C. W. Peterson was the next speaker. He detailed what the Agricultural Department was doing. There were, he said, 80,000 acres now under the herd ordinance, and the brand ordinance was proving highly successful. The Department, too, was endeavoring to cope with noxious weeds. Arrangements had been made for Prof. Fletcher to visit the Territories next summer to address a series of meetings, which from that gentleman's high reputation, would be certain to do a great deal of good. The Department was in hopes, too, of overcoming the prairie fire difficulty, and, of course, the progress of public works would do a deal in that direction, as each public road was a fire guard. J. H. Ross, the Minister of Agriculture, was credited with the saying that one good settler was the best immigration agent, and the policy of the government was to enable people to become good settlers. Speaking of the proposed farmers' institutes, Mr. Peterson said there were at present forty-four agricultural societies in the Territories, and these might do a deal of institute work, such as essays, meetings, procuring improved stock, seeds, etc., but it was thought that some of the work could be done more effectively by institutes formed of delegates from the different societies. The government would be willing to help such institutes, and he would like an expression of opinion on the subject.

Wm. Trant, Regina, gave practical illustrations of the valuable information that could be conveyed to farmers through meetings or conventions. He had known a farmer who killed all the lady-birds, as a certain little beetle was called. The farmer had seen the insect on his turnip leaves and noticed the leaves were being eaten. Thus he concluded that the lady-bird was destroying his turnips, whereas a little knowledge would have shown him that the beetle was his best friend, for it was not injuring the turnip, but was destroying the grub that was doing so. It was knowledge of this kind that was valuable to the farmer, and this was the sort of knowledge that the institutes would bring to light. Professor Fletcher had been referred to. He (Mr. Trant) had heard that gentleman describe one experiment. A plank was placed to intercept drifting snow, and it was found that it also intercepted thousands of seeds of noxious weeds. This was a rebuke to those clever farmers who sneered at the weed question, saying they would keep their own farms clean and other should do the same. It showed that the weeds were great travellers, and were an enemy that must be grappled with in every possible way. Mr. Trant proceeded to urge upon those present to make their societies and institutes as influential as possible, both as regards numbers and quality. The best farmers should all join. The farmers knew best what was wanted, what legislation was required. They could not expect the government to take much notice of a one-horse affair, and he would like to see the proposed institutes so strong that when they said "Yes," no government would dare to say "No."

An interesting discussion took place on many practical questions, after which Mr. French moved, and Mr. Seymour seconded. That, in the opinion of this meeting, it is desirable to take such steps as will ensure the establishment of farmers' institutes throughout the Territories.

This was carried unanimously, and the proceedings terminated.

INDIAN HEAD.

The third of the series of meetings was at Indian Head. In consequence of the blizzardy weather only a few farmers put in an appearance, and it was thought the meeting should be postponed. As, however, those farmers present had come from dis-

tances varying from six to twenty-five miles, it was decided to hold an informal meeting and submit its decision for ratification at a meeting on the 24th of March. Messrs. Mackay, Peterson and Trant made short speeches, after which Mr. Motherwell proposed, "That we, the members of the Indian Head Agricultural Society, are strongly of opinion that the Northwest government should pass an ordinance at its next session as will give financial assistance to farmers' institute work by agricultural societies and will ensure the satisfactory working of the same." Mr. Stevens, reeve, seconded the motion, and it was passed unanimously.

Mr. Dow, of Dow & Curry, proprietors of the Pilot Mound oatmeal mills, is making an extended trip through the Northwest Territories for the purpose of securing the best seed oats that it is possible to find. It is the intention of the firm to distribute these seed oats at cost to the farmers around Pilot Mound, the object being to improve the quality for milling purposes. Of late years the quality of the oats grown at "the mound" has been rapidly deteriorating, and it is believed that a change of seed may have a beneficial effect.

Lost flesh lately?
Does your brain tire?
Losing control over your
nerves?

Are your muscles becoming
exhausted?

You certainly know the
remedy. It is nothing new;
just the same remedy that
has been curing these cases
of thinness and paleness for
twenty-five years. Scott's
Emulsion. The cod-liver
oil in it is the food that
makes the flesh, and the hy-
pophosphites give tone to
the nerves.

50c. and \$1.00, all druggists.
SCOTT & BOWNE, Chemists, Toronto.

Of Interest To Farmers who have Scrub to Remove.

The patent has just been issued for an implement that will **effectually** remove scrub of all kinds, root and branch. It does not matter whether the top is on or off.

These **LAND SCRUBBERS** are made for either one or two teams, and are **guaranteed unbreakable** and will last a lifetime. They weigh from 45 to 50 lbs., and are made of the best sleigh shoe steel.

The patentee has been working on this Scrubber for some years and it is now perfected. One man with one team of horses will pull as much scrub in one day as any five men will chop, and **will do it right.**

Correspondence solicited. All questions promptly answered.

Address—A. E. BROWN, Hamiota, Man.

READ WHAT IS SAID OF IT:—

The "Hamiota Hustler," of Oct. 25, 1898, says of this machine: "Mr. A. E. Brown gave a test exhibition of his Patent Land Scrubber on Friday afternoon last. About 100 farmers and others were present to see the Scrubber working, and the general expression of opinion was that 'It was just the thing for taking out scrub.' Clumps of willow scrub and poplar trees were taken out slick and clean with one team of horses. An implement of this kind will no doubt be appreciated by farmers who have land to clear of scrub. It certainly does the work well and is a great improvement on the old style of cutting out by hand."

FREE Medical Treatment

FOR

Weak Men

Who are Willing to
Pay When
Convinced of Cure.



A scientific combined medical and mechanical cure has been discovered for "Weakness of Men." The proprietors announce that they will send it on trial—remedies and appliances—**without advance payment**—to any honest man. If not all that is claimed—all you wish—send it back—that ends it—pay nothing!

This combined treatment cures quickly, thoroughly, and forever all effects of early evil habits, later excesses, overwork, worry, etc. It creates health, strength, vitality, sustaining powers, and restores weak and undeveloped portions of body to natural dimensions and functions.

Any man writing in earnest will receive description and references in a plain sealed envelope. Professional confidence. No C.O.D. deception nor imposition of any nature. A national reputation backs this offer. Address

Erie Medical Co., Buffalo, N.Y.

Dick's Blood Purifier For Horses And Cattle

PUT UP AS A POWDER.
GIVES NEW LIFE.
INCREASES THE FLOW
OF MILK IN COWS.

LEEMING MILES & CO
AGENTS MONTREAL

DICK & CO.
PROPRIETORS

25 cts. and 50 cts. a package.

GREAT SUCCESS OF THE WINNIPEG CREAMERY.

What has led to the Establishment of a Central Creamery in Winnipeg. It operates throughout the entire year. An increase of 60 p.c. over last year's operations.

Cream received from a distance of 150 miles.

Farmers deeply interested in it. A long-felt want supplied.

The greatest drawback of the dairy industry in Ontario and Quebec has for years been the small butter and cheese factories. The same thing is detrimental a thousand fold to Manitoba with its scattered population. We have already too many factories in some localities. As a rule, they are poorly built and equipped, poorly managed, they work a short season with a limited patronage; incur heavy expense for butter-making (sometimes 6 to 8 cents per lb.) and give poor returns to patrons. Can we blame the farmers for turning their backs upon such institutions? Assuredly no. We always found them grasping at anything that pays.

The above is a true picture of co-operative dairying in many sections of Manitoba. It is a situation which we have been preparing to face during the last few years by the organization of the first central creamery of the province in the City of Winnipeg (in 1897.)

The first steps taken in connection with this were to secure suitable cream transportation rates. In 1896 I approached the Dominion Express Co.'s local officials and laid the matter before them. They grasped the situation at once, and I found them most willing to help us. We are now indebted to them for a reasonable blanket rate extending 150 miles on theirs and other roads.

For some time we were fully aware that the creamery season was too short to be profitable. We have, therefore, provided to meet the requirements of winter dairying. We also arranged to meet remote localities by establishing skimming stations, and, sparsely settled districts by having cream collected from farmers, and in all cases forwarded to Winnipeg. The creamery is now supported by four skimming stations and an extensive patronage from individual farmers, and offers the following inducements:—

1st. To every farmer located within 150 miles of Winnipeg it offers all the ordinary advantages of a local creamery and in many cases much larger returns.

2d. It saves the expense of buying dairy utensils and supplies, such as churns, butter workers, tubs, etc., and the freight upon the articles; also the local freight on butter which reaches the local market in the shape of cream at our expense.

3d. Our creamery produces 10 to 15 per cent. more butter than on the farm.

It has been fully shown, after a careful comparison, that from a given quantity of cream of the same quality we would churn from 10 to 15 per cent. more butter than the average farmer.

We submit the cream to a most exhaustive churning operation, which it is almost impossible to secure on the average farm. This increase in the yield decreases the cost of manufacturing to a minimum.

4th. It works winter and summer, the average creamery working only from four to six months. A number of farmers delivered cream for eight months, while others signed contracts for twelve months. The Winnipeg Creamery has also introduced some very important improvements in connection with its work. It is the only creamery in the province where milk is paid for according to its value in butter fat;

while in other factories it is "pooled," that is, paid according to weight. This old method is evidently absurd and unjust, as we shall endeavor to show. We find milk of different degrees of richness in different herds. This richness varies considerably, according to breeds, feed, care and fraudulent practices. Therefore, it is not reasonable to suppose that value in quantity is value in quality. This "pooling" milk should be discouraged, and preference justly be given to butter and cheese factories paying for milk according to its contents of fat.

We have also applied the Babcock method of testing cream, and have so far obtained from it most uniform and satisfactory results.

In our creamery prospectus we pointed out the weak point of existing creameries. It is the great variation in the results of the cream test which gives rise to considerable dissatisfaction amongst farmers. At the same time we announced the proposed deviations from ordinary methods of testing cream, and we sought to obtain better and more uniform results from individual delivery and the Babcock test applied to cream. I am pleased to say our expectations have been in a great measure realized, except during the first month, when the separator cream screws were not properly adjusted. We find that the results of our cream tests are most uniform.

The Winnipeg Creamery is also of great importance to the patrons of other creameries and cheese factories.

We would be pleased to receive cream from the patrons of other factories before the opening and after the closing of the local factories, particularly in winter, when transportation is safe and butter brings a good price.

We offer a most cordial invitation to cheese factories wishing to organize themselves into skimming stations and to have butter made in the spring and fall. With little expense they can fit themselves up to make either cheese or butter according to seasons and requirements of markets.

We have now reached the most important part of our work, that is, the financial results, which are most satisfactory, as the following figures will show:—

PATRON'S NAME.	Length of Dairy Season.	Per cent. Fat in Cream.	Number of Cows.	Total net Returns.	Returns per Cow.
Jn. Drought, Morris.	4 mths	23.0 21.9 20.8 18.6	8	\$125 00	\$15 62
Jos. Roberts, Oakville.	6 mths	29.0 31.1 31.1 29.9 29.9 27.5 27.5 29.9	15	233 58	15 57
J. Bleau, St. Boniface.	8 mths	18.6 23.0 19.7 25.2 21.9 23.0 25.2 23.0		237 77	
M. Lacroix, St. Boniface.	6½ mths	18.6 23.0 27.5 24.1 25.2 24.1 26.3 23.0		649 78	
B. Lavoie, St. Boniface.	6 mths	28.7 25.2 24.6 24.1 25.2 23.0 24.1 23.0	24	596 21	25 00
Le Comeau, Lasalle.	6 mths	21.1 24.3 24.1 25.2 23.7 25.2	9	228 86	25 00

Messrs. Lavoie, Lacroix, Bleau, and Comeau used the Melotte; Messrs. Bohemer and Roberts used the Alexandra, and Mr. John Drought is using the American cream separator. Either of these separators could be had by addressing or calling at our office, 240 King street, Winnipeg.

We make special mention of Mr. J. B. Lavoie's returns, as we think they are of importance. He cleared nearly \$600.00 in 8 months. He milks his cows 10 months. As the output of the two last months (November and December) gave him \$108.48, and as his cows are now beginning to calve, we can reasonably expect that next month's production will nett him at least \$200; in all, \$800 for one year, or \$32 per cow. Adding the value of the skim milk

fed to calves and pigs, we arrive at the following figures:—

For cream	\$800.00
Skim milk	70.00
23 calves, value now.....	230.00
	\$1100.00

What was Mr. Lavoie's feeding expense in this connection? Pasturage is free to all in his locality. Hay is worth the cost of making it. He spent \$50 for extra feed this winter. As he does all his work with his family, it leaves him a salary of \$1,050 a year, or over \$40 per cow. This is being accomplished not with special herd cattle, but with the ordinary scrub cows of Manitoba. The wheat crop may fail, or be damaged, but stock raising and dairying will ever remain an unfailing source of revenue to our province, when such results are realized.

Now, it is evident that, so soon as it is known that a settler of even limited means has within his reach immediate means of support for himself and family, such as is now offered by the Winnipeg Creamery, it will be a great factor in the settlement of vacant lands around the City of Winnipeg.

Morris, Man.

S. M. Barre,

Prop. Winnipeg Creamery.

Dear Sir,—Your favor received containing cheque for \$7.20, being balance due on my account for cream. I am very pleased to be able to express my satisfaction with the results so far. I have received \$125 for the cream of 8 cows for 4 months, or \$15.62 per cow during that short period.

The American Cream Separator has been a complete success, being easy to clean and not heavy to turn.

Yours very truly,

JOHN S. DROUGHT.

Willow Range, Oakville, Jan. 10, 1899. S. M. Barre.

Dear Sir,—Allow me to express my satisfaction with the results of your creamery operation. I have done far better by shipping my cream than I could have done making butter at home. I will resume sending cream in a few days.

Yours truly,

J. ROBERTS.

St. Boniface, Jan. 14, 1899.

S. M. Barre, Winnipeg.

Dear Sir,—I am much pleased to acknowledge receipt of the sum of \$596.21 in payment of cream during eight months. It is the product of 15 cows from March to July, and 26 during balance of season. It would average less than 24 cows. I have used a hand separator during the last six years. Allow me to point out the fact that from a given quantity of cream of same richness you are making in the creamery from 10 to 15 per cent. more butter than I can make at home. The results exceeded all my expectations.

Yours very truly,

J. B. LAVOIE.

LaSalle, Jany. 2nd, 1899.

S. M. Barre, Winnipeg.

Dear Sir,—I am pleased to acknowledge receipt of the sum of \$228.56. It is the product of nine cows for six months, or \$25.00 per cow. If I add the value of the butter made at home during the rest of the year, and also that of the skim milk fed to calves and swine, I arrive at a value of \$40.00 per cow. I am well satisfied with the results of your work.

Yours truly,

C. COMEAU.

St. Boniface, January 14, 1899.

S. M. Barre.

Dear Sir,—I hereby acknowledge receipt of the sum of \$649.78 in payment of cream furnished to your creamery during 6½ months. I am well satisfied and intend to resume sending cream shortly.

Yours truly,

M. LACROIX..

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Grand Weekly Free Sewing Machine Competition



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Drop Head, Sewing Machines,
Value \$65, Each

Given away weekly for Royal
Crown Wrappers and Coupons, viz:

WINNIPEG, 1 each week.
MANITOBA, outside of Winnipeg, 1 each week.
N. W. T. and ONTARIO, east to Schreiber,
1 each week.

Ask your Grocer for a Coupon with
every five bars of wrapped ROYAL
CROWN SOAP. Full instructions on
each Coupon.

First Drawing Monday, January 16, and each week thereafter until further notice.

Large List of Books and Beautiful Pictures still given away for ROYAL
CROWN SOAP WRAPPERS to those who do not compete for the Sewing
Machines, List mailed free on application.

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Just received, a large shipment of new and beautiful Pictures,
size 10½ x 17½, of 100 different subjects. Mailed free for 10 ROYAL
CROWN SOAP WRAPPERS EACH.



Our Prize Essays.

Owing to the large number of essays that were received the first week of February after competition was closed, we have decided to offer a special prize for the 20th Feb. issue, though it was only the intention to offer one prize a month. This will, therefore, make two prizes for the month of February. First place is given to the essay by "Sunnyside," of Ellisboro, N. W. T. The essay by "Evergreen," on "Handling the Wash," is a good one, and we think will be read with pleasure by all. Several essayists have sent in short articles on cooking recipes and household hints. We are pleased to get them and will give space to them in the Household columns, but some of them can hardly be classed as essays.

Our Household pages are cut short this issue on account of so much space being taken up with reports of the conventions held this month.

A Plain Talk on Hygiene.

By Sunnyside, Ellisboro, N. W. T.

In view of one of the best given definitions of health, "The perfect circulation of pure blood in a sound organism," it might be helpful to consider some of the best ways and means of promoting this, and the importance of the mothers and home keepers having at least an elementary knowledge

of the laws that govern hygiene. The necessity of pure air to breathe and how to introduce it most advantageously into living and sleeping apartments, proper food, bathing, clothing, exercise, and resting the body are all essential to good health. Having pure air to breathe is one of the best means of promoting our physical life, in order that the impure blood passing through the lungs may be purified after having gone through the body. The blood, acting as a drain or stream, carrying with it the waste and impure matter, is brought to the lungs and purified by the act of expiration or breathing out, which throws off the impurities, and by inspiration or breathing in, which takes in oxygen, or pure air. The blood is thus changed to a bright scarlet from the dark purplish color it was when reaching the lungs. Being purified, it then hurries on to take life and strength to wearing out tissues and busy organs. To further this, let us learn to stand and walk erectly, breathe deeply, spend as much time in the open air as possible, and have the air in our houses as pure as it is possible to have it, night and day. Provide an inlet for the pure and outlet for the impure. Do not be afraid of night air; it is all we have to breathe at night, and let it be as pure as possible (and not too much heated.) by letting plenty of it into the sleeping apartment without causing undue draft over the head.

Do not be too afraid of taking cold. There is more danger from too little fresh air than too much. The smaller the room the greater the need of wise ventilation, so that you may rise in the morning fresh and active, ready for duty, instead of a tired, jaded feeling from re-breathing vitiated air. The circulation of the blood, that marvel of marvels, explains this, and how a vigorous walk in the open air after being confined to a close room invigorates and refreshes one.

The skin, too, assists the lungs in their work by throwing off a great deal of impurity, making the thorough airing of bed-clothing, as well as day garments, a wise

consideration. Separate each article, spread them on chairs around the room, and after opening windows and doors leave them to air for hours. Blankets are more hygienic than quilts or comforters, as the emanations from the skin can readily escape through the woolen of the blankets, but cannot through the cotton-filled quilts or comforters, and they are much more washable, which is of special importance. All the clothing worn through the day should be removed for the night garments, and left to air outside the sleeping room.

Thorough washing of the skin in warm water and soap, with the aid of the flesh brush, at least twice a week, is necessary, followed by a vigorous rubbing to keep the skin in a healthy condition. Before retiring is the most desirable time for this bath, as it promotes circulation and sound sleep. A tepid or cold sponge bath, with again a thorough rubbing in the morning before breakfast, is an excellent tonic. Keeping the pores of the skin in a healthy condition is a grand preventive against taking colds. "Fresh air, daily baths, daily free movement of the bowels, good food, and not too much of it—these are foes to colds. The clogged pores of an unwashed body, the poison of constipated bodies, the foul air, the enervation of over-heated, under ventilated rooms—these are the causes of most of the inflamed, feverish conditions called colds."

The clothing should be light and warm. Usually woolen garments should be worn next the body. There must be no restrictions at any part, so that all the organs shall have perfect freedom to perform their respective functions. Suspend all skirts from the shoulders, that there be no dragging weight from the waist. Dress lower extremities warmly. Do not wear thin stockings and thin-soled shoes in cold, damp weather, as the cold contracts the blood vessels and retards circulation; hence a furtherance of the evil.

Enough of proper rest and sleep is one of the great requirements of the times. The

reason why nervous diseases are so on the increase is that "To the speed of modern life is not added an increased proportion of rest." Many an illness would be avoided, and years added to not a few lives, if the calls for rest were observed. A day in bed once a month to rest up would be an unspeakable boon to many a weak-nerved, over-taxed, tired woman. We cannot do good work with an exhausted mind or body. Take time for rest, not only the regulation eight hours at night, but devote some time during the day—if only fifteen minutes, take it. Let mind and body rest during the resting time. Lie down and let every muscle relax, and sleep, if possible, and the latter part of the day's duties will run more smoothly and quickly, the temper will be sweeter, the mind clearer, the body more active, all of which are necessary to the fulfilment of duty and the making of a happy, well-regulated home.

Suitable food is another important factor to the well-being of the body. I shall not go into details, but will simply say: Take plain, nourishing, easily digested food for each meal, which should be taken at regular hours. Avoid eating between meals. Let whole wheat in its various forms be much used, also fresh fruit and vegetables in abundance, and meat in moderation. Masticate the food slowly and well. Do not leave to the stomach work that the teeth ought to do. No wonder it so often rebels. Drink lightly, if any, of warm or hot fluids at the conclusion of a meal. Ice water, very cold, is out of the question, but good, pure water, partaken freely of between meals, is healthful. A large proportion of the weight of the body consists of water. It requires no digestion, and is the only true diluent. Just here let me say that beer, wine or spirits in any form are utterly useless. "They furnish no element capable of entering into the composition of blood, muscular fibre, or any part that pertains to the vital principles."

Sir B. W. Richardson says; "The human body is a water engine. Alcohol in any form is one of the most dreadful of evils; it kills insidiously, as if it were doing no harm, or as if it were doing good." And Baron Liebig averred "that as much flour as can lie upon the point of a table knife contains as much nutriment as eight pints of the best beer that can be made."

So let us, dear women, learn to breathe, clothe, feed, cleanse, and rest our bodies, and nourish our mental, moral and spiritual natures, that we may be better fitted for God's service in whatever sphere we may be placed, ever remembering that the body is the temple of the "Holy Ghost," and that it is our duty and privilege to keep it best fitted for its "Holy Habitant."

Handling the Wash.

By Evergreen, Kola, Manitoba.

The laundry work, one of the most important of our household tasks, is often treated in a very haphazard way, because the person responsible for the family wash does not thoroughly understand the art of washing clothes properly. The household washerwoman should really understand a certain amount of chemistry, in order to preserve the coloring in different fabrics, to remove stains, and to prevent flannels from shrinking. The average housewife does not understand how it is that her calicos look faded after being washed only a few times. She little thinks that it is due to the way in which they have been washed.

Washing being the most laborious of all household duties, Monday, coming after the day of rest, has usually been chosen for wash day. The clothes should be collected and sorted, so that they may be handled early Monday morning. The fine clothes should be put in one pile, the sheets, pillow

cases and towels in another, and underwear in another pile. The dark and light calicos should be separated; stockings classified according to color; the dark blues, brown and blacks may be washed together. Clothes should never be allowed to soak over night, as the water draws out the dirt, and it becomes diffused, giving the clothes a muddy appearance.

Before beginning the wash arrange two tubs of warm soap suds. Look over the table clothes and napkins; pour boiling water through the fruit stains, and moisten grease stains in ammonia water. Tea and coffee stains should be moistened in cold water and rubbed lightly with the hands; then pour through them boiling water with a few drops of ammonia in it. Then begin to wash the tablecloths and other fine articles, and throw them into the second suds. Then puts the sheets, etc., into the first tub to soak while you wash the table linen in the second suds; then wring and soap them for scalding. Next wash the underwear. All clothes must go through the second suds if the wash is large, before being ready for scalding. Do not put the clothes into a boiler and boil them, but into a tub and pour over them a boilerful of boiling water. Allow them to stand until cool, then rub them quickly out, wring and put into clear water for rinsing.

The blueing water must be made before the clothing is put in, and all soap rinsed from the articles before they are placed in the blue, or spots of iron rust will form. Shake and wring from the blue water or the garment will dry streaked. The clothes are now ready for the line, and all articles not requiring starch should be hung to dry at once.

For making starch, take a quarter of a pound of rice starch. Pour over it sufficient boiling water to cook it, and make it the thickness of good cream. Then take the shirts, fold the bosoms together so that the wrong side only will be exposed to the starch. Rub it thoroughly in until the starch comes through on the right side. Also starch collars and cuffs on wrong side. Thin hot starch will make linens much stiffer than when it is thick and cold. Light calicos may be starched after the shirts and turned wrong side out to dry.

Flannels should be washed in a warm, strong soap suds by pressing and drawing through the hands. Rub the soiled parts quickly. Rinse at once in clear, warm water, and wring through a wringer. Do not twist. Shake and hang to dry.

Dark calicos should be dipped in cold, slightly salted water. Then wash quickly through a cold suds. Rinse and hang in the shade to dry.

When washing stockings have two pairs of tepid water. In one make a light suds, in the other put ten drops of ox gall. Turn stockings right side out, wash them quickly through the suds; then turn on wrong side and rinse in the gall water. Run through wringer and hang by toe to dry.

As drying clothes in winter in Manitoba is rather a difficult matter, a good plan is to hang the clothes on a clothes-horse, fold it up and stand somewhere where it will not be knocked over. In this way you can leave them out until they freeze nearly dry, without any danger of them being blown away or torn, which is often the case if they are hung on a line.

CONSUMPTION CURED.

An old physician, retired from practice, had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and all Throat and Lung Affections; also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send free of charge to all who wish it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail, by addressing, with stamp, naming this paper, W. A. Noyes, 820 Powers' Block, Rochester, N.Y.

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General Agent,
Winnipeg.

Truthfulness in the Home.

By Autumn Leaf, Deloraine, Man.

Truthfulness is a gem, all will frankly admit, which stands foremost, or almost so, in the long catalogue of human virtues. What is more to be admired in a child or in one of mature years than unhesitating truthfulness. It lends to the bearer a charm, a fearlessness to the eye and general bearing, which can never be recognized where deceit and falsehood are fostered and practised.

In passing through the lights and shades of this life for more than half a century, I have noted with no little concern and surprise how very inconsistent the mass of the people are; for I might safely say 60 to 70 per cent. of the homes in our so-called Christian land teach deception. They begin teaching little children from the very dawning of reason deception of the grossest kind, and at the very age, too, when the foundation of a Christian and moral training is supposed to begin.

The particular wrong to which I allude is telling and teaching the children about Santa Claus. I do not mean Santa Claus, the merry old fellow who distributes the Christmas tree gifts, for, of course, through his well-known and grotesque disguise even the youngest can recognize a friend or brother. I am referring in this to the imaginary being so minutely described by their elders. When remonstrating on this matter with some one, I was laughingly told, "O, they will grow out of it by and bye." Now, this "growing out of it" is a serious mistake. They will, of course, grow to know that it was a great fraud practised upon them. Then, how can we expect them to retain those other truths we have been so carefully trying to instil into their young minds?

"I would not deceive them for anything," I have heard some mothers say; "it gives them so much pleasure; it is a never-failing source of speculation for weeks before Xmas. It is so amusing to hear them, and they ask so many questions about old Santa Claus—how he gets in, etc." Now, I am sure any thoughtful mind must see that the first false step must lead to one falsehood after another. Now, to my mind, the sowing of false and true in the same mind is a grievous moral wrong, for *deceit in any form* should not be practised on children. With such a training, can we wonder that our little mites of five and seven begin to practise what at that age they begin to discover in their elders—"falsehood and deceit?"

I would like to advise mothers, young ones in particular, to try and get some other way of making Christmas memorable. Something might with advantage be substituted for the old barbarian Santa Claus—something better suited to this nineteenth century. To the thoughtful and intelligent mind that Christmas ogre is fraught with great danger in the blending of right and wrong. I will give a quotation from an old parliamentary speech of long ago. It often comes to my mind when thinking of the above follies. It runs thus:—

Hear the lion in the lobby roar,
Shall we shut the door and keep him out;
Or shall we let him in
And see if we can get him out again?

Long and practical experience and a careful observance of human nature is my only apology for this feeble attack on so grave and popular a wrong.

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The Nor'-West Farmer, like many other papers, gives many useful recipes for cooking, and other household hints; but seldom, or never, do we get a chance of acquiring information on the fundamental laws of cooking, so essential for health. How much of the common ailments of the community might be avoided by better knowledge of preparing food, the foundation of health, properly. What a boon it would be to mankind if the first principles of cooking were taught to every boy and girl at school as a matter of course! When grown up they would insist on food being properly prepared. How many people know the proper way to prepare onions before cooking—how seldom it is done—to make them wholesome and digestible? How many people know how to boil, fry, or bake meat properly, or know the why and the wherefore of good cooking? And yet the health of mind as well as of body and of future generations depends on it. A man or woman is generally called a good cook who can make various pies, cakes and such stuff, while their meat is boiled to fibre or sodden in grease. I would recommend to every household a little 25c. book called "School Cookery Book," by C. E. Guthrie Wright (Macmillan & Co., London and New York.) It is very simple and clear, and two articles in it, "The Principles of Cookery," and "General Directions for Cooking," are worth everybody's study.

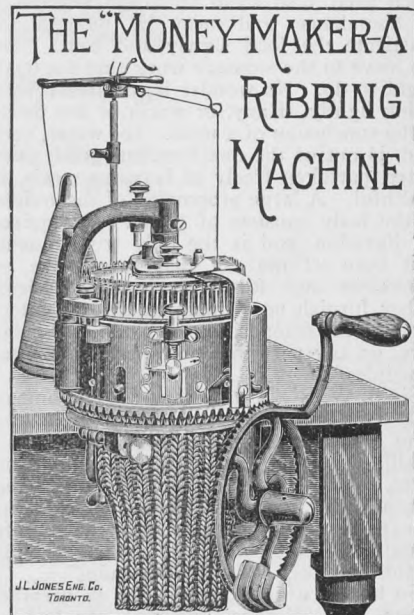
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